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✓ FATTY ACIDS IN ANIMAL AND PLANT PRODUCTS

COMPILATION OF ANALYTICAL DATA AND BIBLIOGRAPHY

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From these basic data on fatty acids a simplified table has been developed for practical use by dietitians, nutritionists, home economists, and others planning and appraising diets. It is published as "Fatty Acids in Food Fats", Home Economics Research Report No. 7, U. S. Department of Agriculture, March 1959.

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NEED FOR THIS COMPILATION

These technical tables bring together from the literature, 1920-1955, data on the composition and characteristics of fats and oils for use in planning research, and to aid workers in nutrition, food technology, and related fields. Because worldwide use is anticipated, many foods and other commodities not common in this country have been included. The urgency for the information in medical and commercial research is such that it is not feasible to await the development of more highly refined techniques of analysis before reporting the values currently available. The paucity of the data available on the fatty acids of foods produced in this country should stimulate research; gaps in the information on specific foods and food products will be obvious.

EXPLANATION OF THE TABLES

The data are presented in three tables:

1. Data on land animals and their products, with saturated fatty acid content ranging from about 25 to 70 percent.
2. Data on aquatic animals and their products, many of which contain unsaturated fatty acids of extra long chain lengths.
3. Data on plants and plant products, particularly seeds, which contain oils that are predominantly unsaturated.

The saturated fatty acids are designated in the column headings by number of carbon atoms. The unsaturated acids are designated by number of carbons and degree of unsaturation. Following the American usage, a monoethenoid fatty acid is designated as (-2H), diethenoid as (-4H), et cetera. Space did not permit reporting the common names of the fatty acids in the tables nor could columns for positional isomers be accommodated. Such information, when provided by the author, is given by footnote.

The component fatty acids of a given product, total saturated and total unsaturated, usually add to 100 percent. In case the deviation from this value is more than ± 4 , this fact has been designated by footnote.

A column for total saturated fatty acids is included in the tables because this is the only way data are reported for many items. A column for total unsaturated acids is not shown because we consider that the figure would have little specificity or scientific application on account of the diversity of unsaturation.

For reference, the common names, empirical formulas, and systematic names of some naturally occurring fatty acids, including many of those encountered in this study, are given in chart 1 (p. 9). Although the isomers appear to be very similar chemically, they are widely separated in their natural occurrence in foods and other commodities as can be observed in the data presented in the tables.

Chart 2 (p. 12) shows the structural configuration as well as plant sources of several of the fatty acids listed in chart 1 which are of scientific (especially medical) interest.

Geometric or cis-trans isomers occur naturally. This type of isomerism is possible when a compound has two carbon atoms attached by a double bond. For example: Oleic acid $\text{CH}_3-(\text{CH}_2)_7-\text{CH}=\text{CH}-(\text{CH}_2)_7-\text{COOH}$. Rotation is restricted because of the double bond.

The shape of the molecule will differ according to whether the molecule is partly folded back on itself, cis, or is extended to maximum length, trans. The natural oleic acid is cis. The trans form is known as elaidic acid and the process of isomerization is known as elaidinization.

In "The Chemical Constitution of Natural Fats, Third Edition, 1956" T. P. Hilditch pointed out that all ruminants have small amounts of the isomeric oleic acid both in depot fat and in milk fat. In addition to the small amounts of trans isomer which may occur naturally, in some foods hydrogenation of oils in preparation of shortenings and margarines bring about production of comparatively large quantities of these isomers which can be quantitatively determined by infrared analysis. An example of such data is shown in item 323 of table 3.

Included with the tabulated data when they were reported are two well-known characteristics of fats -- the iodine value or number and percentage of unsaponifiable fraction.

The iodine value is of interest because of its approximate gross relationship to total unsaturation of the fat. The figures reported may vary markedly, however, depending upon the method of determination. For example, among the methods used were the Kaufmann, Marshall, Hanus, Wijs, Hübl, and Winkler, to mention just a few. In this tabulation the iodine values of plants and animals are expressed in terms of total fat unless a statement is made by footnote that they were based on total fatty acids.

The unsaponifiable matter is that part of the fat which cannot be changed to water-soluble products by the process of saponification with alkalis. It includes higher alcohols, sterols, fat-soluble vitamins, and hydrocarbons such as paraffins or mineral oils. Since the unsaponifiable matter is soluble in ether and other fat solvents, the ordinary solvent extractions include total unsaponifiable as well as total saponifiable fraction and the combination of the two is known as crude fat. This is the value which is commonly reported as total fat in food tables, including Agriculture Handbook No. 8, Composition of Foods.

METHODS OF USING DATA

When the number of samples justifies such treatment, we report a set of maximum, minimum, and selected values. Unless otherwise designated, these data come from only one study and the number of samples is indicated. The selected value may not be in agreement with values for the product cited elsewhere in the table. Values for other products usually represent distinct studies resulting from different research designs or testing of experimental variables not common in food problems and in some cases differing in analytical methods used.

When selected values are derived from a number of sets of values, the data have been slightly adjusted as necessary to make the total add to 100 percent, taking into account the value for each fatty acid and magnitudes of the larger components.

Inasmuch as fatty acid composition of foods and other commodities tends to vary greatly with production factors, we have attempted to indicate in the tables some of the factors responsible for this. Unfortunately, however, we have found only one set of values for many of the commodities listed and the one set may not be applicable in all situations. When more data are available production factors or other conditions may call for a revision of values recommended for diet appraisal.

Composition data for all items apply to uncooked fats unless otherwise designated. For the cooking studies, paired products, cooked and uncooked, were used in all cases so that any change in values resulting from the cooking process could be quickly evaluated. For example, see item 30 of table 1.

As indicated on the table headings, the fatty acids are designated as weight percentage of total fatty acids. However, fatty acids can be converted to other terms when the required information is available. For example, fatty acid values expressed as percentage of total fatty acids may be converted to fatty acids as percentage of total fat (as glycerides) by multiplying each fatty acid value by the standard factor which, as recommended by the American Oil Chemists' Spectroscopy Committee, is 0.956 for most naturally occurring fats and oils. Milk and milk products, because of their content of short-chain fatty acids, have lower saponification equivalents. Therefore, a factor of 0.945 is used for milk fat in converting the percentage fatty acids in total fatty acids to percentage fatty acids in total fat (as glycerides).

In usual practice, the chemist determining total fat in foods or other commodities extracts the material with ether or some similar fat solvent. The resulting product contains unsaponifiable matter in addition to pure fat. The percentage of unsaponifiable matter is negligible in some products, but in others it may total more than half the weight of the total lipid.

The following are the steps in converting weight percentage of total fatty acids to weight percentage (grams per 100 grams) of food:

1. Convert fatty acid reported as percentage of total fatty acid to fatty acid as percentage of total fat (glycerides):

Multiply the value for each component fatty acid by--

0.956 for fats with average chain length (all ordinary products except dairy products).

0.945 for milk fats and others with short-chain fatty acids.

2. Correct for unsaponifiable matter in ether extract (crude fat):

- a. Subtract amount of unsaponifiable from 100.
- b. Multiply remainder by each component fatty acid.
- c. Divide by 100, to give grams per 100 grams of fat.

3. Convert to fatty acid as percentage of food:

- a. Multiply by percentage of fat in food.
- b. Divide by 100, to give grams of fatty acids per 100 grams of food.

Sample Calculation: Fatty Acids of Wheat Flour - Percentage by Weight
Calculated to Various Bases

Basis of calculation	Total	Unsaturated			Unsaponi-	Iodine	Fat
	satur- ated	C ₁₈ (-2H)	C ₁₈ (-4H)	C ₁₈ (-6H)	fiable	value	in food
	Pct.	Pct.	Pct.	Pct.	Pct.		Pct.
Total fatty acids ^{1/}	15.6	34.6	46.0	3.8	5.5	125.0	
Total fat (glyceride)	14.9	33.1	44.0	3.6			
Ether extract (crude fat)							
saponifiable plus							
unsaponifiable	14.1	31.3	41.6	3.4			
Food (wheat flour)	.20	.44	.58	.05			1.4

^{1/} Data are from analysis of a freshly milled straight-grade hard spring wheat flour, reported by B. Sullivan and M. Howe in Cereal Chem. 15, 716-21.

SOURCE OF DATA AND GENERAL COMMENTS

The tables presented are based upon published data of characteristics and fatty acid composition of fats, as reported in the technical literature for the years 1920 through 1955. Included were such foreign and domestic publications as were available to our group and to Walter O. Lundberg and his colleagues, Eugene A. Breault and Orville S. Privett, of the Hormel Institute, University of Minnesota, Austin, Minnesota, who assembled much of the data for the years 1920 through 1949 under contract with the U. S. Department of Agriculture.

In addition to published data, certain unpublished data have been included which resulted from research carried out by C. F. Atkins and C. R. Dillard, Morgan State College, Baltimore, Maryland, under contract arrangements with U. S. Department of Agriculture.

The data on fatty acid content of foods and other commodities have come from all parts of the world and the analytical methods used were far from uniform. In some cases the reports were not usable, because the information necessary for evaluation was insufficient. In a few cases the original data were not available in this country and abstracts as a rule furnish little or no information regarding laboratory methods used.

The technical names for products posed problems. The nomenclature used for plants and plant products frequently differed from that given in Standardized Plant Names, (Harlan P. Kelsey and William A. Dayton, 1942, 2d edition). The latter was used except in special cases where we were assisted in the choice of technical names by specialists who kindly reviewed our listing prior to compilation of the data. In the case of land and aquatic animals and their products nomenclature used by the authors was assumed to be correct unless specialists in these fields of work indicated otherwise. We wish to express our appreciation to Sidney F. Blake and Paul Russell, New Crops Research Branch

of Crops Research Division, Plant Industry Station, Beltsville, Maryland for assistance with plant products and to Herbert Friedman, Head Curator of Zoology, and other members of the staff of the U. S. National Museum, Washington, D. C., for assistance with animal products.

COMMENTS ON ITEMS OF TABLE 1

Milk fat is quite variable. Perhaps it is best characterized by T. P. Hilditch, who stated that palmitic and oleic are the chief component acids, that palmitic has some approach toward constancy but is lower than in the depot fats for the cow. The average figure for palmitic acid in milk fat is about 24 to 26 percent as compared with 30 percent for depot fat. The proportions of oleic acid are likewise lower in milk fats than in the depot fat of the cow. There is a reciprocal relation between the proportion of oleic and that of saturated fatty acids--especially stearic acid. Hilditch pointed out also that whereas the composition of milk fat is quite liable to variation in sequence of seasons, the character of the seasonal variations is not easy to establish since other factors cause variation. There are slight variations in the composition of the milk of different individual cows and in the milk of the same cow as the stage of lactation and the number of lactations increase. E. L. Jack, University of California, stated that: "milk fat is not a uniform substance and it is impossible to say that an exact quantity of any individual constituent is representative of milk fat."

Where possible the data given in the tables on fats from dairy animals and poultry include information regarding the feed of the animals. Such data show how some animals respond in character of body fat and milk and egg fat to the presence of different types of fat in the ration. For example, while we regard 7.9 as the best value for linoleic acid content of egg yolk, very much higher values have been found as a response of hens to rations that were extremely high in linoleic acid (item 22, table 1). Such high values should by no means be regarded as representative of the composition of egg yolk.

Data resulting from experimental variables in production have been included in the tables for their possible physiological or nutrition implications, for example, the values on fats of land animals and fish during inanition.

In some cases the investigator provided a means of direct comparison of the relationships between the carcass and feed values (item 33, table 1). The feed values are placed in parentheses and are not numbered since they are regarded as only incidental to the study of feed fats.

Comparison of linoleic and linolenic acid contents of paired cuts of chicken before and after cooking in vegetable oil revealed that the contents of these acids were materially higher in fried chicken than in the corresponding raw cuts. In order to interpret these results we reported (in parentheses) the data showing that linoleic and linolenic acids of the fat (soy bean oil) were lower after use. Hence it was clear that cooking fat absorbed by the chicken during cooking had altered the fatty acid composition of the chicken (item 28, table 1).

When fats of land animals and of aquatic animals are compared it can be observed, as pointed out by Hilditch, that the difference in fatty acid composition is not as diverse as was originally supposed. While the higher polyethenoid acids are less abundant in the land animals than in the aquatic, they are present not only in the C_{20} but also in the C_{22} series of acids. For example, both C_{20} and C_{22} acids have been reported as constituents of egg yolk and of depot fat of the pig. Also, among the constituents of brain phosphatides, there has been reported the following unsaturated fatty acids of the C_{22} series: 7-10-13-trienoic; 7-10-13-16-tetraenoic; 7-10-13-16-19-

and 4-7-10-13-16-pentaenoic, and 4-7-10-13-16-19-hexaenoic.

COMMENTS ON ITEMS OF TABLE 2

Fresh-water fish differ from marine species in that the former contain higher proportions of oleic and linoleic acids and lower proportions of acids of the C₂₀, C₂₂ series. Halibut liver oil shows an absence of linoleic acid and a low ratio of C₂₀ to C₂₂ acids.

Hilditch has called attention to a fundamental difference between the fats of aquatic animals and those of plants. The polyethenoid acids of the fats of aquatic sources belong to the C₁₆, C₁₈, C₂₀, C₂₂, and C₂₄ series whereas those of fats of plant products, only the C₁₈ series. The C₁₆, C₁₈, and C₂₄ polyethenoid acids are not very abundant in marine animal fats however, and those of the C₂₀ and C₂₂ series may constitute a considerable portion, 30 to 40 percent.

COMMENTS ON ITEMS OF TABLE 3

Generally the fats of plant products are somewhat less complex than those of animal products, but their fatty acids include unusual acids, both saturated and unsaturated. An outstanding characteristic of plant products is the concentration of lipid material in the seed of the plant. More analyses of seeds than of other parts of the plant were found in the literature. For example, for citrus fruits (items 11-14, table 3) the data were in terms of seed fat except in one study. In this study (item 13-c) composition of the juice was determined approximately even though 1.4 percent of its lipid content was unidentified and another 6.2 percent was not characterized. The extremely small percentages of lipid material in most succulent vegetables and fruits have made it difficult to determine fatty acid content of the entire fruit or vegetable. In the case of many plants, the only data available are the total fatty acids of the seeds. Many of these seeds have been found to be high in linoleic acid and may prove to have industrial or pharmaceutical uses.

The palm genera, admittedly a broad classification, differ from some other plant groupings in that one given species may possess two entirely different locations of fat storage, the fruit coat and the seed, and these fats differ widely in composition, as can be seen from the data in table 3.

Tables bound separately
as pages 35-65

CHART 1

FATTY ACIDS IN NATURAL FATS--PART 1

Saturated fatty acids				
Common name	:	Empirical formula	:	Systematic name
Butyric	:	$C_4H_8O_2$	:	n-Butanoic
Isovaleric	:	$C_5H_{10}O_2$	:	3-methylbutanoic
Caproic	:	$C_6H_{12}O_2$	:	n-Hexanoic
Caprylic	:	$C_8H_{16}O_2$	:	n-Octanoic
Capric	:	$C_{10}H_{20}O_2$	:	n-Decanoic
Lauric	:	$C_{12}H_{24}O_2$	:	n-Dodecanoic
Myristic	:	$C_{14}H_{28}O_2$	:	n-Tetradecanoic
Palmitic	:	$C_{16}H_{32}O_2$	:	n-Hexadecanoic
Stearic	:	$C_{18}H_{36}O_2$	:	n-Octadecanoic
*Dihydroxy-stearic	:	$C_{18}H_{36}O_4$	:	9, 10-Dihydroxy-octadecanoic
Arachidic	:	$C_{20}H_{40}O_2$	:	n-Eicosanoic
Behenic	:	$C_{22}H_{44}O_2$	:	n-Docosanoic
Lignoceric	:	$C_{24}H_{48}O_2$	:	n-Tetracosanoic
Cerotic	:	$C_{26}H_{52}O_2$	:	n-Hexacosanoic
Montanic	:	$C_{28}H_{56}O_2$	:	n-Octacosanoic
Melissic	:	$C_{30}H_{60}O_2$	:	n-Triacontanoic
Lacceroic	:	$C_{32}H_{64}O_2$	:	n-Dotriacontanoic

*Structural configuration and plant sources are given in chart 2 .

CHART 1

FATTY ACIDS IN NATURAL FATS--PART 2

Monoethenoid fatty acids		
Common name	Empirical formula	Systematic name
Cuttlefish acid (Disc. 1954)	$C_8H_{14}O_2$	Octenoic
Obtusilic	$C_{10}H_{18}O_2$	4-Decenoic
Caproleic	$C_{10}H_{18}O_2$	9-Decenoic
Linderic	$C_{12}H_{22}O_2$	4-Dodecenoic
Lauroleic	$C_{12}H_{22}O_2$	5-Dodecenoic
--	$C_{12}H_{22}O_2$	9-Dodecenoic
Tsuzuic	$C_{14}H_{26}O_2$	4-Tetradecenoic
Myristoleic	$C_{14}H_{26}O_2$	9-Tetradecenoic
Palmitoleic (Zoomaric)	$C_{16}H_{30}O_2$	9-Hexadecenoic
Petroselinic	$C_{18}H_{34}O_2$	6-Octadecenoic
Oleic	$C_{18}H_{34}O_2$	9-Octadecenoic
Vaccenic	$C_{18}H_{34}O_2$	11-Octadecenoic
--	$C_{18}H_{34}O_2$	12-Octadecenoic
*Ricinoleic	$C_{18}H_{34}O_3$	12-Hydroxy- <u>cis</u> - octadeca-9-enoic
Gadoleic	$C_{20}H_{38}O_2$	9-Eicosenoic
Cetoleic	$C_{22}H_{42}O_2$	11-Docosenoic
Erucic	$C_{22}H_{42}O_2$	13-Docosenoic
Selacholeic	$C_{24}H_{46}O_2$	15-Tetracosenoic
Ximenic	$C_{26}H_{50}O_2$	17-Hexacosenoic
Lumequeic	$C_{30}H_{58}O_2$	21-Triacontenoic

CHART 1

FATTY ACIDS IN NATURAL FATS--PART 3

Diethenoid and polyethenoid fatty acids			
Common name	Empirical formula		Systematic Name
--	$C_{10}H_{16}O_2$	:	2, 4-Decadienoic
*Hydnocarpic	$C_{16}H_{28}O_2$	:	11- <u>cyclo</u> Pent-2-enyl-n-undecanoic
Hiragonic	$C_{16}H_{26}O_2$	:	6, 10, 14-Hexadecatrienoic
--	$C_{16}H_{24}O_2$	:	6, 9, 12, 15-Hexadecatetraenoic
Linoleic	$C_{18}H_{32}O_2$	:	9, 12-Octadecadienoic
*Chaulmoogric	$C_{18}H_{32}O_2$	:	13- <u>cyclo</u> Pent-2-enyl-n-tridecanoic
Dihydroxyoleic	$C_{18}H_{34}O_4$	:	12, 13-Dihydroxy- <u>cis</u> -octadec-9-enoic
*Vernolic	$C_{18}H_{32}O_3$	:	12, 13-Epoxy-octadec-9-enoic
(Epoxyoleic)		:	
*Gorlic acid	$C_{18}H_{30}O_2$	:	13- <u>cyclo</u> Pent-2-enyl-tridec-6-enoic
Linolenic	$C_{18}H_{30}O_2$	:	9, 12, 15-Octadecatrienoic
Elaeostearic	$C_{18}H_{30}O_2$	:	9, 11, 13-Octadecatrienoic
Moroctic	$C_{18}H_{28}O_2$	:	4, 8, 12, 15-Octadecatetraenoic
Parinaric	$C_{18}H_{28}O_2$	:	9, 11, 13, 15-Octadecatetraenoic
Sterculic	$C_{19}H_{34}O_2$	:	ω -(2-n-Octyl <u>cyclo</u> prop-1-enyl)octanoic
--	$C_{20}H_{36}O_2$	:	11, 14-Eicosadiaenoic
--	$C_{20}H_{32}O_2$	:	4, 8, 12, 16-Eicosatetraenoic
Arachidonic	$C_{20}H_{32}O_2$	:	5, 8, 11, 14-Eicosatetraenoic
Timnodonic	$C_{20}H_{30}O_2$	:	4, 8, 12, 15, 18-Eicosapentaenoic
Clupanodonic	$C_{22}H_{34}O_2$	:	4, 8, 12, 15, 19-Docosapentaenoic
Nisinic	$C_{24}H_{36}O_2$	:	4, 8, 12, 15, 18, 21-Tetracosahexaenoic
Shibic	$C_{26}H_{42}O_2$	:	**Hexacosapentaenoic
Thynnica	$C_{26}H_{40}O_2$	:	**Hexacosahexaenoic

**Location of bonds unknown.

CHART 2

STRUCTURAL CONFIGURATION OF FATTY ACIDS IN NATURAL FATS

Common name	Configuration	Plant Source
Chaulmoogric	$\text{CH}_2\text{-(CH}_2\text{)-CH-(CH}_2\text{)}_{12}\text{-C(=O)OH}$ CH=CH	:Chaulmoogra (<u>Gynocardia</u> : <u>odorata</u>) (Used in treat : ment of leprosy)
Dihydroxystearic	$\text{CH}_3\text{-(CH}_2\text{)}_7\text{-C(H)(OH)-C(H)(OH)-(CH}_2\text{)}_7\text{-C(=O)OH}$	:Castor oil (<u>Ricinus</u> : <u>communis</u>)
Gorlic	$\text{CH}_2\text{-(CH}_2\text{)-CH-(CH}_2\text{)}_6\text{-CH=CH-(CH}_2\text{)}_4\text{-C(=O)OH}$ CH=CH	:Corli seed (<u>Oncoba</u> : <u>echinata</u>)
Hydnocarpic	$\text{CH}_2\text{-(CH}_2\text{)-CH-(CH}_2\text{)}_{10}\text{-C(=O)OH}$ CH=CH	:Seed fats of <u>Hydnocarpus</u> : and other genera of : Flacourtiaceae family : Used in Leprosy and : some other diseases
Ricinoleic	$\text{CH}_3\text{-(CH}_2\text{)}_5\text{-C(H)(OH)-CH}_2\text{-CH=CH-(CH}_2\text{)}_7\text{-C(=O)OH}$	:Castor oil; also ergot : ivory wood
Vernolic	$\text{CH}_3\text{-(CH}_2\text{)}_4\text{-CH(O)-CH}_2\text{-CH=CH-(CH}_2\text{)}_7\text{-C(=O)OH}$:Seed fat of <u>Vernonia</u> : <u>anthelmintica</u> : (<u>Compositae</u>)

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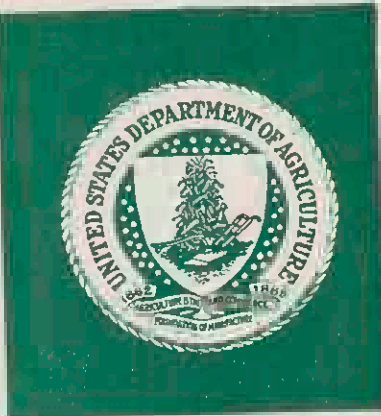
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Table 1.—Land animals and their products: Composition and characteristics of fats based on technical literature for period 1920 - 1955

Item number and description		Saturated fatty acids (weight percentage of total fatty acids)									Unsaturated fatty acids (weight percentage of total fatty acids)											Iodine value	Unsaponifiable	Item number				
		C ₄	C ₆	C ₈	C ₁₀	C ₁₂	C ₁₄	C ₁₆	C ₁₈	C ₂₀	Total	C ₁₀ (-2H)	C ₁₂ (-2H)	C ₁₄ (-2H)	C ₁₆ (-2H)	C ₁₈ (-2H)	C ₁₈ (-4H)	C ₁₈ (-6H)	C ₂₀ (-2H)	C ₂₀ (-4H)	C ₂₀ (-8H)				C ₂₂ (-2H)	C ₂₂ (-10H)		
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)				(21)	(22)	(23)	(24)
Milk; milk products:																												
Cow milk:																												
1	England (basal diet plus supplements):																									1		
a	Cows on control diet: hay, swedes, oats, peanut meal.	4.0	2.3	0.8	1.9	2.2	9.3	25.5	11.8	1/ 0.8	58.6	0.2	0.2	0.9	2.3	34.3	2.1	—			1.4			39.2	1.4	a		
b	Cow on control diet / refined peanut oil, I.V. 88.	2.9	1.5	.5	1.4	1.7	7.3	23.8	12.7	1/ 1.2	53.0	.1	.2	.7	2.1	40.6	1.8	—			1.5			43.8	.4	b		
c	Cows on control diet / hydrogenated peanut oil, I.V. 45.	2.7	1.5	.6	1.5	2.0	6.2	21.8	16.6	1/ 1.0	53.9	.1	.2	.6	2.3	39.0	3.3	—			.6			43.3	.3	c		
d	Cows on control diet / hydrogenated peanut oil, I.V. 17.	3.6	2.1	1.2	1.5	1.9	8.2	24.9	13.8	1/ 1.2	58.4	.1	.2	.8	1.5	35.6	1.7	—			1.7			38.8	.3	d		
e	Cows on control diet / refined palm kernel oil, I.V. 17.	3.2	1.7	1.2	1.3	6.0	10.9	22.2	12.0	1/ 1.1	59.6	.1	.4	1.0	2.3	33.5	1.2	—			1.9			38.0	.4	e		
2	England (different winter rations):																									2		
a	Cows (beef type) on silage and oat straw.	2.8	2.0	.7	1.7	2.2	5.4	29.7	10.5	1.9	56.9	.1	.3	1.4	2/ 3.4	33.4	3/ .9	0.6			3.0			41.0	.2	a		
b	Cows (beef type) on silage, oat straw, and roots.	3.0	3.0	.9	2.1	2.5	6.9	35.9	7.9	1.6	63.8	.2	.3	1.1	2/ 3.0	27.1	3/ 1.4	.6			2.5			36.0	.3	b		
c	Cows (beef type) on oat straw, and roots.	4.1	2.4	.5	2.1	3.3	7.5	35.7	6.7	1.4	63.7	.2	.6	1.6	2/ 5.2	25.6	3/ 1.2	.7			1.2			36.6	.2	c		
d	Cows (beef type) on oat straw and roots. 1/	3.8	2.6	.7	3.2	2.6	8.0	41.3	6.1	1.6	69.9	.2	.4	1.3	2/ 5.9	19.6	3/ 1.0	.9			.8			30.4	.3	d		
3	England (effect of inanition):																									3		
a	Cow before inanition	3.5	.6	1.0	1.8	2.5	11.9	23.5	11.6	1.1	57.5	.2	.2	.9	3.2	35.9	1.2	—			.8			36.6	—	a		
b	Cow on 11th and 12th days of inanition.	1.2	—	.1	.2	.1	2.8	20.0	14.3	.9	39.6	—	—	.4	1.4	52.8	2.5	—			3.3			46.1	—	b		
c	Cow on last 6 days (7th - 12th) of inanition.	2.7	.1	.1	1.0	.6	3.8	22.1	9.9	.9	41.2	.2	.2	.4	2.0	51.7	.8	—			3.5			52.5	—	c		
4	England (seasonal variations):																									4		
a	Cows on silage	3.6	2.0	.5	2.3	2.5	11.1	29.0	9.2	1/ 2.4	62.6	.1	.1	.9	4.6	26.7	3.6	—			1.4			37.5	.3	a		
b	Cows on early summer pasture	3.7	1.7	1.0	1.9	2.8	8.1	25.9	11.2	1/ 1.2	57.5	.1	.2	.6	3.4	32.8	3.7	—			1.7			42.9	.2	b		
c	Cows on late summer pasture	3.5	1.9	.7	2.1	1.9	7.9	25.8	12.7	1/ 1.5	58.0	.1	.2	.6	2.4	34.0	3.7	—			1.0			40.5	.1	c		
5	India:																									5		
a	Cow (same ration was fed to cow and buffalo).	4.0	1.8	1.0	1.9	2.2	12.9	31.3	8.3	.9	64.3	.1	.3	1.2	1.6	28.0	3.8	—			.7			34.3	.2	a		
b	Buffalo	4.8	1.6	.5	1.2	2.8	11.5	29.0	14.1	1.5	67.0	Trace	.2	.8	3.8	25.5	1.5	—			1.2			30.2	.3	b		
6	United States of America:																									6		
a	Colostrum	2.6	1.6	.5	1.6	3.2	9.5	31.7	11.8	1/ .6	63.1	.1	.2	.7	2.7	28.5	2.5	.4			1.1	.7	—	—	—	a		
b	Mature	3.5	1.4	1.7	2.6	4.5	14.6	30.2	10.5	1.7	70.7	.2	.2	1.5	5.7	18.7	2.1	—			.9	—	—	—	—	b		
c	Evaporated				24.3			28.0	4.8	—	57.1	—	—	—	3.5	35.4	2.6	.9			—	—	.3	—	.2	5/ 41.3	< 1	c
7	Goat milk:																									7		
	England: Does on pasture fed hay, vegetables, and peanut cake.	3.0	2.5	2.8	10.0	6.0	12.3	27.9	6.0	1/ .6	71.1	.3	.3	.8	2.6	21.1	3.6	—			.2			28.8	.4			
8	United States of America:																									8		
a	Goat, cottonseed fed	2.1	2.1	1.8	8.9	5.6	11.4	30.1	6/ 9.7	—	71.7	.3	—	.4	2.8	23.2	—	—			1.6	—	—	—	—	—	a	
b	Goat, not cottonseed fed	2.4	2.5	1.4	7.2	3.9	10.4	34.4	5/ 7.8	—	70.0	.2	—	.4	2.7	25.2	—	—			1.5	—	—	—	—	—	b	
c	Goat, unknown diet	2.1	1.9	2.7	7.9	3.5	10.2	28.7	8.1	1/ .4	65.5	.2	—	.4	2.1	31.1	—	—			.7			—	—	c		
9	Horse milk:																									9		
	England: Mare 8 years old.	.4	.9	2.6	5.5	5.6	7.0	16.1	2.9	1/ .3	41.3	.9	1.0	1.8	7.5	18.7	7.6	16.1			5.1			84.3	1.5			
10	Human milk:																									10		
a	United States of America:																									a		
b	Colostrum2	.1	.8	3.5	.9	2.8	24.6	9.9	4.9	47.7	.2	.1	.1	1.8	36.0	7.5	.3			4.6	1.8	—	—	—			
	Mature4	.1	.3	2.2	5.5	8.5	23.2	6.9	1.1	48.2	.1	.1	.6	3.0	36.5	7.8	.4			2.4	.9	—	—	—			
11	Indian buffalo milk:																									11		
a	India (2 studies):																									a		
b	Selected value	4.9	.9	.4	.9	1.8	9.5	30.9	15.4	1.0	65.7	0	.1	.7	3.0	27.5	1.0	—			2.0			30.2	.3			
c	Maximum	5.9	1.9	.9	1.3	2.8	11.9	35.2	21.7	1.9	—	.1	.2	1.0	3.8	36.2	1.5	—			4.4			37.0	—	b		
d	Minimum	4.0	0	0	.4	.6	4.4	25.3	12.2	0	—	0	0	.4	1.8	20.4	.3	—			.8			27.4	—	c		
	Samples	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	—	(5)	(5)	(5)	(5)	(5)	(5)	—			(5)			(4)	(1)	d		
12	Sheep milk:																									12		
	England	2.8	2.6	2.2	4.8	3.9	9.7	23.9	12.6	1/ 1.1	63.6	.1	.1	.6	2.2	26.3	5.2	—			1.9			36.7	.4			
13	Swine milk:																									13		
	New Zealand			1.3			1.5	26.9	6.5	—	36.2	—	—	—	8.3	36.7	14.6	—			4.2			—	—			

NOTE: Values based on single lots unless otherwise indicated. Degree of unsaturation unknown for grouped fatty acids unless otherwise indicated.

- 1/ Reported "as arachidic".
2/ Includes minor amounts of C₁₆(-4H).
3/ Conjugatable / conjugated C₁₈(-4H), linoleic acid.

- 4/ Draft included (refuse grain from distillaries).
5/ Based on total fatty acids instead of total fat.
6/ Contains minor amounts of higher saturated fatty acids.

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Item number and description		Saturated fatty acids (weight percentage of total fatty acids)										Unsaturated fatty acids (weight percentage of total fatty acids)												Iodine value	Unsaponifiable	Item number
		C ₄	C ₆	C ₈	C ₁₀	C ₁₂	C ₁₄	C ₁₆	C ₁₈	C ₂₀	Total	C ₁₀ (-2H)	C ₁₂ (-2H)	C ₁₄ (-2H)	C ₁₆ (-2H)	C ₁₈ (-2H)	C ₁₈ (-4H)	C ₁₈ (-6H)	C ₂₀ (-2H)	C ₂₀ (-4H)	C ₂₀ (-8H)	C ₂₂ (-2H)	C ₂₂ (-10H)			
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)				(23)	(24)
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	Percent	
Milk; milk products--Continued																										
Milk products:																										
Butter:																										
14	England (2 studies):																								14	
a	Selected value	3.1	1.5	1.4	2.3	3.7	9.5	26.8	7.8	0.6	56.7	0.3	0.4	1.6	4.0	33.2	3.8	--	--	--	--	--	--	41.4	0.7	a
b	Maximum	3.3	1.7	1.6	2.7	4.0	12.1	29.0	9.2	1.3	--	--	--	--	40.9	4.1	--	--	--	--	--	--	--	41.6	1.0	b
c	Minimum	3.0	1.3	1.2	2.1	3.4	6.9	25.3	6.5	0	--	--	--	--	29.6	3.6	--	--	--	--	--	--	--	41.3	.4	c
d	Samples .....number..	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	--	(1)	(1)	(1)	(1)	(3)	(3)	--	--	--	--	--	--	(2)	(2)	d
15	England:																								15	
a	Cows on a general ration \neq coconut cake.	3.4	2.0	1.1	3.2	7.3	17.1	27.0	4.8	--	65.9	--	--	--	--	31.7	2.4	--	--	--	--	--	--	31.6	3.4	a
b	Cows on a general ration \neq soya bean cake.	3.6	1.5	1.7	3.8	6.5	10.6	26.3	8.3	1.2	63.5	--	--	--	--	32.9	3.6	--	--	--	--	--	--	34.8	2.4	b
16	New Zealand (2 studies):																								16	
a	Selected value	3.2	1.8	1.2	2.6	4.0	11.0	27.6	10.5	.6	62.5	--	--	--	--	33.0	4.5	--	--	--	--	--	--	34.5	1.6	a
b	Maximum	3.5	2.0	1.3	3.1	4.1	11.1	28.0	11.5	--	--	--	--	--	33.5	4.5	--	--	--	--	--	--	--	--	--	b
c	Minimum	3.0	1.7	1.0	2.0	4.0	11.0	27.3	9.0	--	--	--	--	--	31.3	4.5	--	--	--	--	--	--	--	--	--	c
d	Samples .....number..	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(1)	--	--	--	--	(2)	(2)	--	--	--	--	--	--	--	(1)	(1)	d
17	New Zealand (seasonal variations):																								17	
a	July	4.5	1.9	.5	2.0	2.5	8.2	25.8	13.6	.6	59.6	.1	.2	.9	2.6	35.4 (-2.2H)		1.2 (-4.7H)		--	--	--	--	--	--	a
b	September	4.4	2.2	.9	2.6	3.0	9.4	23.8	13.8	.9	61.0	.2	.2	.8	1.9	34.2 (-2.2H)		1.7 (-3.9H)		--	--	--	--	--	--	b
c	November	4.2	2.4	1.2	3.3	3.8	11.4	25.5	13.8	.8	66.4	.3	.3	1.0	1.8	28.7 (-2.3H)		1.5 (-4.0H)		--	--	--	--	--	--	c
d	January	4.4	2.1	.9	2.7	3.2	10.5	25.5	13.8	.9	64.0	.2	.2	1.0	1.9	31.2 (-2.2H)		1.5 (-4.4H)		--	--	--	--	--	--	d
e	April	3.6	1.9	.7	2.2	2.6	10.0	23.8	14.3	.8	59.9	.2	.2	1.1	2.1	34.7 (-2.2H)		1.8 (-4.6H)		--	--	--	--	--	--	e
f	May	3.5	1.7	.7	2.0	2.4	9.3	24.3	14.6	1.1	59.6	.2	.2	1.0	2.1	35.1 (-2.2H)		1.8 (-4.5H)		--	--	--	--	--	--	f
18	New Zealand (monthly variations): 7/																								18	
a	October 1949	--	--	--	--	--	--	--	--	--	--	--	--	--	--	33.8	1.7	0.9	--	--	0.3	--	--	36.7	--	a
b	November 1949	--	--	--	--	--	--	--	--	--	--	--	--	--	--	30.5	1.6	.8	--	--	.3	--	--	33.5	--	b
c	December 1949	--	--	--	--	--	--	--	--	--	--	--	--	--	--	29.3	1.4	.8	--	--	.4	--	--	32.1	--	c
d	January 1950	--	--	--	--	--	--	--	--	--	--	--	--	--	--	30.1	1.4	.9	--	--	.3	--	--	33.0	--	d
e	February 1950	--	--	--	--	--	--	--	--	--	--	--	--	--	--	32.7	1.1	.7	--	--	.3	--	--	34.2	--	e
f	March 1950	--	--	--	--	--	--	--	--	--	--	--	--	--	--	33.4	1.8	.6	--	--	.4	--	--	35.9	--	f
g	April 1950	--	--	--	--	--	--	--	--	--	--	--	--	--	--	35.8	1.5	.7	--	--	.3	--	--	37.9	--	g
19	United States of America (5 studies):																								19	
a	Selected value	3.2	1.8	.8	1.4	3.8	8.3	27.0	12.5	--	58.8	--	--	--	2.1	35.0	3.0	.8	--	--	.2	--	0.1	33.4	< 1	a
b	Maximum	--	--	--	--	--	--	28.8	13.9	--	69.9	--	--	--	--	39.2	5.0	1.2	--	--	.3	--	--	44.6	--	b
c	Minimum	--	--	--	--	--	--	24.4	9.8	--	55.4	--	--	--	--	27.6	1.1	.4	--	--	.2	--	--	30.1	--	c
d	Samples .....number..	(1)	(1)	(1)	(1)	(1)	(1)	(2)	(2)	--	(46)	--	--	--	(1)	(46)	(46)	(4)	--	--	(4)	--	(1)	(44)	(1)	d
20	Cheese:																								20	
a	Processed:																									
b	Cheddar	2.7	1.8	1.2	2.3	2.5	10.5	26.2	11.6	1.8	60.6	.1	.2	.8	2.2	30.6	1.8	.8	1.7	8/0.9	.2	--	--	--	--	a
	Swiss	2.4	2.2	1.1	2.4	2.5	10.8	25.6	12.6	.6	60.2	.1	.2	.9	2.1	31.8	2.3	.7	1.4	8/.1	.1	--	--	--	--	b
21	Eggs:																									
	Chicken (Gallus domesticus):																									
	Egg yolk: Total lipids (calculated)	--	--	--	--	--	.3	26.5	7.2	.2	34.2	--	--	.1	4.2	47.4	7.9	.7	2.1 (-6.0H)		3.4 (-9.0H)		--	--	--	21
21 ₁	Glycerides (2 studies):																								21 ₁	
a	Selected value	--	--	--	--	--	.4	25.3	6.2	--	31.9	--	--	.3	5.5	50.0	8.2	1.5	2.6 (-8.0H)		2.6 (-8.0H)		--	--	--	a
b	Maximum	--	--	--	--	--	.7	25.4	7.5	--	--	--	--	--	7.9	52.4	8.6	--	3.1 (-6.0H)		3.1 (-6.0H)		--	--	--	b
c	Minimum	--	--	--	--	--	.1	25.2	4.8	--	--	--	--	--	3.3	49.0	7.9	--	2.3 (-10.0H)		2.3 (-10.0H)		--	--	--	c
d	Samples .....number..	--	--	--	--	--	(2)	(2)	(2)	--	--	--	--	(1)	(2)	(2)	(2)	(1)	--	--	(2)	--	--	--	--	d
21 ₂	Phospholipids (2 studies):																								21 ₂	
a	Selected value	--	--	--	--	--	.3	29.0	10.0	1.8	41.1	--	--	--	.8	37.0	7.0	.8	7.1 (-6.8H)		6.2 (-8.4H)		--	--	--	a
b	Maximum	--	--	--	--	--	--	31.8	16.1	--	--	--	--	--	--	42.6	8.2	--	13.3 (-10.0H)		13.3 (-10.0H)		--	--	--	b
c	Minimum	--	--	--	--	--	--	27.9	4.1	--	--	--	--	--	--	33.1	5.9	--	6.2 (-8.4H)		6.2 (-8.4H)		--	--	--	c
d	Samples .....number..	--	--	--	--	--	(1)	(2)	(2)	(1)	--	--	--	--	(1)	(2)	(2)	(1)	--							

NOTE: Values based on single lots unless otherwise indicated. Degree of unsaturation unknown for grouped fatty acids unless otherwise indicated.

7/ Basis for analysis unknown; data do not add to 100 percent.

8/ Includes minor amounts of C₂₀(-6H).

Table 1.—Land animals and their products: Composition and characteristics of fats based on technical literature for period 1920 - 1955 -- Continued

Item number and description		Saturated fatty acids (weight percentage of total fatty acids)									Unsaturated fatty acids (weight percentage of total fatty acids)											Iodine value	Unsaponifiable	Item number		
		C ₄	C ₆	C ₈	C ₁₀	C ₁₂	C ₁₄	C ₁₆	C ₁₈	C ₂₀	Total	C ₁₀ (-2H)	C ₁₂ (-2H)	C ₁₄ (-2H)	C ₁₆ (-2H)	C ₁₈ (-2H)	C ₁₈ (-4H)	C ₁₈ (-6H)	C ₂₀ (-2H)	C ₂₀ (-4H)	C ₂₀ (-8H)				C ₂₂ (-2H)	C ₂₂ (-10H)
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)				(21)	(22)	(23)	(24)
																									Percent	
Poultry:																										
Chicken (<i>Gallus domesticus</i>):																										
24	Abdominal fat:																								24	
a	Selected value	--	--	--	--	--	0.7	24.8	5.6	--	31.1	--	--	--	5.9	41.0	21.3	--	0.7					79.3	--	a
b	Maximum	--	--	--	--	--	1.2	25.6	7.0	--	--	--	--	--	6.7	42.5	21.8	--	.7					80.1	--	b
c	Minimum	--	--	--	--	--	.3	24.0	4.1	--	--	--	--	--	5.3	39.4	20.8	--	.6					78.5	--	c
d	Samples .....number..	--	--	--	--	--	(2)	(2)	(2)	--	--	--	--	--	(2)	(2)	(2)	--	(2)					(2)	--	d
25	Depot fat (4 breeds):																								25	
a	Selected value	--	--	--	--	--	--	--	--	--	28.8	--	--	--	--	45.8	25.4	--	--	--	--	--	--	--	a	
b	Maximum	--	--	--	--	--	--	--	--	--	33.7	--	--	--	--	51.0	29.5	--	--	--	--	--	--	--	b	
c	Minimum	--	--	--	--	--	--	--	--	--	26.3	--	--	--	--	39.7	21.0	--	--	--	--	--	--	--	c	
d	Samples .....number..	--	--	--	--	--	--	--	--	--	(8)	--	--	--	--	(8)	(8)	--	--	--	--	--	--	--	d	
26	Gizzard (2 studies):																								26	
a	Selected value	--	--	--	--	--	.4	25.1	5.6	--	31.1	--	--	--	7.4	39.0	20.1	1.6	--	--	0.2	--	0.6	79.9	a	
b	Maximum	--	--	--	--	--	.6	25.4	7.1	--	--	--	--	--	7.6	43.0	25.1	1.7	--	--	.2	--	.8	81.9	b	
c	Minimum	--	--	--	--	--	.1	25.2	4.2	--	--	--	--	--	7.1	36.6	18.4	1.4	--	--	.2	--	.4	78.1	c	
d	Samples .....number..	--	--	--	--	--	(2)	(2)	(2)	--	--	--	--	--	(2)	(5)	(5)	(3)	--	--	(3)	--	(3)	(5)	d	
27	Neck:																								27	
a	Selected value	--	--	--	--	--	.8	25.6	5.0	--	31.4	--	--	--	6.7	40.9	20.8	--	.2					78.6	--	a
b	Maximum	--	--	--	--	--	1.2	26.7	5.9	--	--	--	--	--	6.9	42.8	21.2	--	.3					79.8	--	b
c	Minimum	--	--	--	--	--	.3	24.5	4.2	--	--	--	--	--	6.6	39.0	20.4	--	Trace					77.4	--	c
d	Samples .....number..	--	--	--	--	--	(2)	(2)	(2)	--	--	--	--	--	(2)	(2)	(2)	--	(2)					(2)	--	d
28	Paired cuts of chicken:																								28	
	Frying:																									
a	Raw	--	--	--	--	--	--	--	--	--	33.7	--	--	--	--	30.1	33.0	1.6	--	--	1.6	--	--	92.5	a	
b	Fried in soybean oil	--	--	--	--	--	--	--	--	--	21.7	--	--	--	--	27.5	45.4	4.2	--	--	1.6	--	--	118.1	b	
	Soybean oil used for frying:																									
	Before use	--	--	--	--	--	--	--	--	--	(16.2)	--	--	--	--	(21.0)	(55.9)	(7.1)	--	--	(.1)	--	--	(132.9)		
	After use	--	--	--	--	--	--	--	--	--	(14.2)	--	--	--	--	(25.1)	(54.4)	(6.3)	--	--	(.1)	--	--	(132.3)		
29	Roasting:																								29	
a	Drippings.....	--	--	--	--	--	--	--	--	--	35.6	--	--	--	--	45.5	17.9	.8	--	--	.4	--	--	72.3	a	
b	Raw	--	--	--	--	--	--	--	--	--	31.7	--	--	--	--	47.3	19.2	1.0	--	--	.6	--	--	78.5	b	
c	Roasted	--	--	--	--	--	--	--	--	--	31.7	--	--	--	--	47.2	19.7	1.2	--	--	.6	--	--	79.6	c	
30	Stewing:																								30	
a	Cooking liquid	--	--	--	--	--	--	--	--	--	24.7	--	--	--	--	47.6	26.3	.8	--	--	.5	--	--	90.6	a	
b	Raw	--	--	--	--	--	--	--	--	--	24.5	--	--	--	--	48.2	25.9	.9	--	--	.6	--	--	90.6	b	
c	Stewed.....	--	--	--	--	--	--	--	--	--	26.0	--	--	--	--	45.1	27.1	.8	--	--	.8	--	--	90.4	c	
31	Skin (effect of age):																								31	
a	10 weeks	--	--	--	--	--	--	--	--	--	33.5	--	--	--	--	41.3	23.0	1.6	--	--	.2	--	.5	80.9	a	
b	17 weeks	--	--	--	--	--	--	--	--	--	36.1	--	--	--	--	36.1	25.1	1.8	--	--	.2	--	.9	83.2	b	
c	24 weeks	--	--	--	--	--	--	--	--	--	29.3	--	--	--	--	45.0	23.0	1.8	--	--	.2	--	.8	85.8	c	
d	Overall average	--	--	--	--	--	--	--	--	--	33.0	--	--	--	--	40.8	23.7	1.8	--	--	.2	--	.7	83.3	d	
32	Skin of 24 week-old chickens (effect of tocopherol on induction period): 9/																								32	
a	Skin fat (extracted) 10/	--	--	--	--	--	--	--	--	--	29.3	--	--	--	--	45.0	23.0	1.9	--	--	.2	--	.8	85.7	a	
b	Skin fat (pressed) 10/.....	--	--	--	--	--	--	--	--	--	29.3	--	--	--	--	45.0	23.0	1.8	--	--	.3	--	.7	85.9	b	
c	Skin fat (extracted) 11/	--	--	--	--	--	--	--	--	--	31.4	--	--	--	--	39.7	25.1	2.1	--	--	.3	--	1.0	87.7	c	
d	Skin fat (pressed) 11/	--	--	--	--	--	--	--	--	--	31.4	--	--	--	--	39.7	25.1	2.1	--	--	.3	--	1.2	88.7	d	
e	Skin fat (extracted) 12/	--	--	--	--	--	--	--	--	--	32.4	--	--	--	--	42.9	22.0	1.6	--	--	.3	--	.5	81.2	e	
f	Skin fat (pressed) 12/	--	--	--	--	--	--	--	--	--	33.5	--	--	--	--	42.9	20.9	1.6	--	--	.3	--	.4	80.2	f	
Turkey (<i>Meleagris gallopavo</i>):																										
33	Carcass fat (effect of kind of dietary fat): 13/																								33	
a	Carcass fat	--	--	--	--	--	--	--	--	--	29.5	--	--	--	--	66.5	3.6	.3	--	--	.1	--	--	64.3	a	
	Dietary fat as fed (control)	--	--	--	--	--	--	--	--	--	(30.7)	--	--	--	--	(42.7)	(24.5)	(.9)	--	--	(1.2)	--	--	(86.5)		
b	Carcass fat	--	--	--	--	--	--	--	--	--	31.4	--	--	--	--	64.4	3.8	.3	--	--	.1	--	--	63.2	b	
	Dietary fat 2% beef fat, as fed	--	--	--	--	--	--	--	--	--	(42.3)	--	--	--	--	(50.9)	(6.0)	(.5)	--	--	(.3)	--	--	(56.6)		
c	Carcass fat	--	--	--	--	--	--	--	--	--	31.9	--	--	--	--	52.3	15.2	.4	--	--	.2	--	--	73.1	c	
	Dietary fat 2% corn oil, as fed	--	--	--	--	--	--	--	--	--	(23.3)	--	--	--	--	(31.5)	(44.5)	(.5)	--	--	(.2)	--	--	(106.2)		
d	Carcass fat	--	--	--	--	--	--	--	--	--	31.4	--	--	--	--	52.5	6.3	9.4	--	--	.4	--	--	81.8	d	
	Dietary fat 2% linseed oil, as fed.	--	--	--	--	--	--	--	--	--	(15.3)	--	--	--	--	(27.8)	(13.7)	(42.9)	--	--	(.3)	--	--	(160.9)		
e	Carcass fat	--	--	--	--	--	--	--	--	--	33.2	--	--	--	--	51.5	13.9	1.1	--	--	.3	--	--	72.2	e	
	Dietary fat 2% soybean oil, as fed.	--	--	--	--	--	--	--	--	--	(20.4)	--	--	--	--	(2										

NOTE: Values based on single lots unless otherwise indicated. Degree of unsaturation unknown for grouped fatty acids unless otherwise indicated.

9/ Induction period defined as the time in hours required for rate of absorption of oxygen to become rapidly accelerated. Induction period in hours for fats a, b, c, d, e, f: 16, 18, 31, 28, 55, and 59, respectively.

10/ Tocopherol content naturally found in skin fat: 7/gm. (a) 28, (b) 24.

11/ Tocopherol content found in skin fat after feeding 0.1 percent alphatocopherol during the last week of the test: 7/gm. (c) 43, (d) 40.

12/ Tocopherol content found in skin fat after feeding 0.1 percent alphatocopherol during the last two weeks of the test: 7/gm. (e) 57, (f) 56.

13/ Low-fat basal diet (0.5 percent crude fat): Rice, ground 68 percent; meat scraps, defatted 5 percent; casein 11 percent; dried whey 6 percent; dried yeast 5 percent; minerals and vitamins 5 percent.

Item number and description	Saturated fatty acids (weight percentage of total fatty acids)										Unsaturated fatty acids (weight percentage of total fatty acids)										Iodine value	Unsaponifiable	Item number				
	C ₄	C ₆	C ₈	C ₁₀	C ₁₂	C ₁₄	C ₁₆	C ₁₈	C ₂₀	Total	C ₁₀ (-2H)	C ₁₂ (-2H)	C ₁₄ (-2H)	C ₁₆ (-2H)	C ₁₈ (-2H)	C ₁₈ (-1H)	C ₁₈ (-6H)	C ₂₀ (-2H)	C ₂₀ (-1H)	C ₂₀ (-8H)				C ₂₂ (-2H)	C ₂₂ (-10H)		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)				(21)	(22)	(23)	(24)
Poultry--Continued																											
Turkey (<i>Meleagris gallopavo</i>) --Continued																											
34	Carcass fat (effect of protein and vegetable oils): 14/																									34	
a	Basal diet									33.5					47.1	16.8	1.1				0.1			75.0		a	
b	Fish meal 10% + coconut oil 5%									54.6					33.4	10.6	.8				.5			54.0		b	
c	Fish meal 10% + linseed oil 5%									28.0					32.6	14.3	23.7				1.2			113.0		c	
d	Meat scrap 12.5% + coconut oil 5% ..									52.8					34.6	10.7	1.6				.2			58.0		d	
e	Meat scrap 12.5% + linseed oil 5% ..									28.7					42.3	10.1	18.5				.3			102.0		e	
35	Carcass fat (standard growing ration)															48.4	15.9	1.4				.7			75.1		35
	Fat in ration															(33.4)	(37.4)	(4.3)				(.3)			(105.0)		
36	Depot fat (4 breeds):																										36
a	Selected value									30.8					46.5	22.7								82.1		a	
b	Maximum									33.9					50.8	29.0								87.9		b	
c	Minimum									25.9					36.8	20.4								78.8		c	
d	Samples									(8)					(8)	(8)								(8)		d	
37	Roasted turkey:																									37	
a	Dark meat, raw									29.3					47.6	20.9	.8				1.4			83.8		a	
b	Dark meat, roasted									27.0					52.6	18.0	.6				1.8			83.3		b	
c	Skin, raw									27.9					49.4	20.7	.9				1.1			84.2		c	
d	Skin, roasted									28.1					49.7	20.1	.9				1.0			83.2		d	
e	White meat, raw									30.1					45.5	22.1	.7				1.7			84.5		e	
f	White meat, roasted									28.9					48.3	20.6	.6				1.6			83.9		f	
38	Skin of 24 week old turkeys (effect of tocopherol on induction period):15/																									38	
a	Skin fat (extracted) 16/									32.4					37.7	26.2	2.1				0		1.5	88.0		a	
b	Skin fat (pressed) 16/									31.4					38.7	26.2	2.0				.1		1.3	88.1		b	
c	Skin fat (extracted) 17/									31.4					38.7	26.2	2.1				0		1.4	89.6		c	
d	Skin fat (pressed) 17/									32.4					37.7	26.2	2.0				0		1.5	89.3		d	
e	Skin fat (extracted) 18/									32.4					37.7	26.2	2.0				.1		1.5	88.5		e	
f	Skin fat (pressed) 18/									34.5					33.5	28.2	1.9				0		1.5	88.8		f	
Stored turkey parts: 19/																											
39	Turkeys in confinement fed a growing ration:																									39	
391	Breast:																									391	
a	Before storage									30.7					43.0	24.8	1.1				.3			87.9		a	
b	After 680 days at 10° F. (-12.2° C.)									30.2					46.4	22.5	.5				.3			85.0		b	
c	After 700 days at 0° F. (-17.8° C.)									30.6					46.5	22.1	.5				.3			84.2		c	
392	Leg:																									392	
a	Before storage									29.9					43.6	25.0	1.2				.2			88.6		a	
b	After 680 days at 10° F. (-12.2° C.)									32.2					48.4	18.8	.3				.2			79.2		b	
c	After 700 days at 0° F. (-17.8° C.)									29.6					47.5	21.5	.5				.3			83.8		c	
40	Turkeys on rape pasture fed a growing ration:																									40	
401	Breast:																									401	
a	Before storage									30.3					38.5	29.5	1.3				.4			93.0		a	
b	After 680 days at 10° F. (-12.2° C.)									32.0					39.6	26.9	1.3				.3			88.7		b	
c	After 700 days at 0° F. (-17.8° C.)									28.3					36.4	32.9	1.7				.5			99.0		c	
402	Leg:																									402	
a	Before storage									32.4					36.2	29.8	1.3				.4			91.3		a	
b	After 680 days at 10° F. (-12.2° C.)									32.1					37.5	28.6	1.5				.4			90.7		b	
c	After 700 days at 0° F. (-17.8° C.)									27.0					38.7	32.0	1.8				.4			99.1		c	
41	Badger (<i>Meles meles</i> L.) body fat													1.1	6.2	30.9	8.4	3.9	14.6					91.6	0.6	41	
42	Bear, North American black (<i>Ursus americanus</i>); subcutaneous tissues. 20/															65.7	11.4	6.1							92.0	.1	42
Beef; Cattle (<i>Bos taurus</i>):																											
Bone fats:																											
43	Calf:																									43	
a	Gelatinous					21/0.6	3.6	18.2	7.1	1.8	31.3			1.7	4.7	56.6	3.3	.8	1.6					68.6	.6	a	
b	Porous bone					21/1.6	4.9	20.5	8.8	1.0	36.8			1.3	5.8	53.2	1.3	1.0	.6					60.3	.1	b	
44	Cow:																									44	
a	Gelatinous					21/.6	1.9	21.6	4.6	.2	28.9			1.4	6.3	58.3	2.5	.8	1.8					69.4	.2	a	
b	Porous bone					21/1.6	1.8	21.0	6.5	.3	31.2			1.2	7.2	55.6	2.2	.9	1.7					68.0	.2	b	
c	Yellow marrow						4.1	31.0	13.0	.8	48.9			.8	2.5	43.7	2.5	1.0	.6							c	

NOTE: Values based on single lots unless otherwise indicated. Degree of unsaturation unknown for grouped fatty acids unless otherwise indicated.

14/ Turkeys were fed basal diet alone and plus their respective supplements for eight weeks before slaughter.

15/ Induction period defined as the time in hours required for rate of absorption of oxygen to become rapidly accelerated. Induction period in hours for fats a, b, c, d, e, f: 1.7, 0.8, 3.1, 1.5, 13.0, and 9.0, respectively.

16/ Tocopherol content naturally found in skin fat: 7/gm. (a) 12, (b) 13.

17/ Tocopherol content found in skin fat after feeding 0.1 percent alphatocopherol during the last week of the test: 7/gm. (c) 19, (d) 15.

18/ Tocopherol content found in skin fat after feeding 0.1 percent alphatocopherol during the last two weeks of the test: 7/gm. (e) 23, (f) 23.

19/ Analyses mainly on skin and subcutaneous fat.

20/ Fatty acids reported add to 94.1 percent.

21/ C₁₂ or lower fatty acids.

Table 1.—Land animals and their products: Composition and characteristics of fats based on technical literature for period 1920 - 1955 -- Continued

Item number and description	Saturated fatty acids (weight percentage of total fatty acids)										Unsaturated fatty acids (weight percentage of total fatty acids)												Iodine value	Unsaponifiable (24) Percent	Item number		
	C ₄	C ₆	C ₈	C ₁₀	C ₁₂	C ₁₄	C ₁₆	C ₁₈	C ₂₀	Total	C ₁₀ (-2H)	C ₁₂ (-2H)	C ₁₄ (-2H)	C ₁₆ (-2H)	C ₁₈ (-2H)	C ₁₈ (-4H)	C ₁₈ (-6H)	C ₂₀ (-2H)	C ₂₀ (-4H)	C ₂₀ (-8H)	C ₂₂ (-2H)	C ₂₂ (-10H)					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)				(23)	
Beef; Cattle (<i>Bos taurus</i>) --Continued																											
Bone marrow:																											
45	Cow:																										
a	Femur	---	---	---	---	---	---	---	---	55.5	---	---	---	---	40.4	4.1	---	---	---	---	---	---	---	---	41.7	0.4	45
b	Metatarsus	---	---	---	---	---	---	---	---	20.8	---	---	---	---	75.1	4.1	---	---	---	---	---	---	---	---	71.4	.4	a
c	Tibia / fibula	---	---	---	---	---	---	---	---	41.7	---	---	---	---	54.0	4.3	---	---	---	---	---	---	---	---	53.7	.4	b
46	Liver lecithin	---	---	---	---	---	10.4	25.6	---	36.0	---	---	---	---	13.4	28.8	---	---	---	22/19.8	---	---	---	---	---	---	46
47	Mammary gland fat:																										
a	Lactating	6.5	2.0	0.8	0.9	2.6	4.8	31.1	12.6	61.3	0.3	0.5	0.5	2/6.2	25.8	3.2	0.7	1.5				---	---	41.5	1.8	47	
b	Non-lactating	1.2	.2	.4	.4	2.1	4.7	41.3	16.5	66.8	.2	.5	1.3	2/9.5	18.6	1.9	1.2	Trace				---	---	42.7	2.0	a	
48	Plasma, blood from 6 Holstein cows	---	---	---	---	---	.4	24.5	12.3	38.0	---	---	---	2.6	17.4	36.5	4.2	---	---	1.3	---	---	---	---	---	---	48
Retail cuts:																											
49	Brisket (cow and steer):																										
a	Selected value	---	---	---	---	---	---	---	---	41.3	---	---	---	---	54.8	2.7	.7	---	---	.5	---	---	---	---	57.8	---	49
b	Maximum	---	---	---	---	---	---	---	---	47.3	---	---	---	---	59.9	3.5	.9	---	---	.8	---	---	---	---	61.0	---	a
c	Minimum	---	---	---	---	---	---	---	---	36.8	---	---	---	---	49.1	2.3	.5	---	---	.3	---	---	---	---	51.8	---	b
d	Samples	---	---	---	---	---	---	---	---	(7)	---	---	---	---	(7)	(7)	(7)	---	---	(7)	---	---	---	---	(7)	---	c
50	Brisket (cow):																										
a	Outside, cutter	---	---	---	---	---	---	---	---	40.0	---	---	---	---	56.2	2.3	.7	---	---	.7	---	---	---	---	59.1	---	50
b	Outside, utility	---	---	---	---	---	---	---	---	42.3	---	---	---	---	53.4	2.7	.8	---	---	.8	---	---	---	---	57.7	---	a
c	Inside, utility	---	---	---	---	---	---	---	---	44.9	---	---	---	---	51.2	2.5	.8	---	---	.7	---	---	---	---	55.0	---	b
51	Brisket (steer):																										
a	Outside, choice	---	---	---	---	---	---	---	---	39.9	---	---	---	---	55.7	3.5	.5	---	---	.4	---	---	---	---	59.1	---	51
b	Outside, prime	---	---	---	---	---	---	---	---	36.8	---	---	---	---	59.9	2.4	.5	---	---	.4	---	---	---	---	61.0	---	a
c	Inside, prime	---	---	---	---	---	---	---	---	47.3	---	---	---	---	49.1	2.8	.6	---	---	.3	---	---	---	---	51.8	---	b
52	Chuck:																										
a	Raw	---	---	---	---	---	---	---	---	44.9	---	---	---	---	51.8	2.5	.5	---	---	.3	---	---	---	---	50.6	---	52
b	Stewed	---	---	---	---	---	---	---	---	45.2	---	---	---	---	51.8	2.3	.4	---	---	.3	---	---	---	---	50.1	---	a
c	Cooked liquid	---	---	---	---	---	---	---	---	45.8	---	---	---	---	51.4	2.2	.5	---	---	.1	---	---	---	---	49.4	---	b
53	Rolled rib roast:																										
a	Raw	---	---	---	---	---	---	---	---	42.2	---	---	---	---	54.9	2.2	.5	---	---	.2	---	---	---	---	53.0	---	53
b	Roasted	---	---	---	---	---	---	---	---	42.9	---	---	---	---	54.3	2.1	.5	---	---	.2	---	---	---	---	52.5	---	a
c	Dripping	---	---	---	---	---	---	---	---	42.6	---	---	---	---	54.6	2.1	.5	---	---	.2	---	---	---	---	52.7	---	b
Stored cuts:																											
54	Steers fed a fattening diet:																										
541	Round:																										
a	Before storage	---	---	---	---	---	---	---	---	43.2	---	---	---	---	54.4	2.0	.3	---	---	.1	---	---	---	---	53.9	---	541
b	After 90 days at 33° F. (0.6° C.) ..	---	---	---	---	---	---	---	---	45.2	---	---	---	---	52.2	2.1	.4	---	---	.1	---	---	---	---	52.3	---	a
c	After 905 days at 4° F. (-15.6° C.) ..	---	---	---	---	---	---	---	---	44.4	---	---	---	---	53.2	2.0	.3	---	---	.1	---	---	---	---	53.2	---	b
542	Shoulder:																										
a	Before storage	---	---	---	---	---	---	---	---	45.6	---	---	---	---	52.1	1.9	.4	---	---	.1	---	---	---	---	51.6	---	542
b	After 90 days at 33° F. (0.6° C.) ..	---	---	---	---	---	---	---	---	46.2	---	---	---	---	51.2	2.0	.4	---	---	.1	---	---	---	---	51.3	---	a
c	After 905 days at 4° F. (-15.6° C.) ..	---	---	---	---	---	---	---	---	45.6	---	---	---	---	53.2	2.0	.3	---	---	.6	---	---	---	---	52.7	---	b
55	Steers fed a maintenance diet:																										
551	Round:																										
a	Before storage	---	---	---	---	---	---	---	---	52.7	---	---	---	---	44.8	1.7	.6	---	---	.1	---	---	---	---	45.6	---	551
b	After 90 days at 33° F. (0.6° C.) ..	---	---	---	---	---	---	---	---	53.2	---	---	---	---	44.0	1.9	.7	---	---	.1	---	---	---	---	45.5	---	a
c	After 905 days at 4° F. (-15.6° C.) ..	---	---	---	---	---	---	---	---	49.3	---	---	---	---	48.2	1.8	.5	---	---	.2	---	---	---	---	48.6	---	b
552	Shoulder:																										
a	Before storage	---	---	---	---	---	---	---	---	57.6	---	---	---	---	41.2	1.7	.7	---	---	.2	---	---	---	---	42.6	---	552
b	After 90 days at 33° F. (0.6° C.) ..	---	---	---	---	---	---	---	---	56.1	---	---	---	---	41.3	1.8	.6	---	---	.2	---	---	---	---	42.8	---	a
c	After 905 days at 4° F. (-15.6° C.) ..	---	---	---	---	---	---	---	---	52.0	---	---	---	---	45.4	1.8	.4	---	---	.2	---	---	---	---	46.3	---	b
56	Suprarenals, phospholipids	---	---	---	---	---	1.2	23.8	11.1	2.0	38.1	---	---	---	40.2	---	---	---	---	22.2	---	---	---	---	---	---	56
57	Tallow:																										
a	Edible	---	---	---	---	---	---	---	---	50.3	---	---	---	---	46.3	2.9	.5	---	---	.1	---	---	---	---	5/ 48.3	---	57
b	Completely hydrogenated	---	---	---	---	---	2.0	30.3	64.5	96.8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	a
58	Tissues:																										
a	Calf	---	---	---	---	---	---	---	---	52.5	---	---	---	---	23/40.5	6.7	---	---	---	---	---	---	---	---	46.5	.1	58
b	Cow	---	---	---	---	---	---	---	---	61.1	---	---	---	---	23/35.1	3.6	---	---	---	---	---	---	---	---	36.5	.1	a
Buffalo (<i>Bubalus bubalus</i>), India:																											
59	Body fat:																										
a	Female	---	---	---	---	---	.9	32.8	21.7	.7	56.1	---	---	---	42.5	.8	---	---	---	---	---	---	---	---	35.1	.3	59
b	Male	---	---	---	---	---	1.4	36.1	31.2	---	68.7	---	---	---	28												

NOTE: Values based on single lots unless otherwise indicated. Degree of unsaturation unknown for grouped fatty acids unless otherwise indicated.

1/ Reported "as arachidic".

2/ Based on total fatty acids instead of total fat.

2/ Includes minor amounts of C₁₆(-4H).

22/ In addition 1.9 percent unidentified fatty acid reported.

23/ Includes vaccenic acid: (a) 2.7 percent, (b) 2.8 percent, the remainder is oleic acid.

24/ Reported "as Gadoleic".

Table 1.--Land animals and their products: Composition and characteristics of fats based on technical literature for period 1920 - 1955 -- Continued

Item number and description	Saturated fatty acids (weight percentage of total fatty acids)										Unsaturated fatty acids (weight percentage of total fatty acids)												Iodine value	Unsaponifiable	Item number	
	C ₄	C ₆	C ₈	C ₁₀	C ₁₂	C ₁₄	C ₁₆	C ₁₈	C ₂₀	Total	C ₁₀ (-2H)	C ₁₂ (-2H)	C ₁₄ (-2H)	C ₁₆ (-2H)	C ₁₈ (-2H)	C ₁₈ (-4H)	C ₁₈ (-6H)	C ₂₀ (-2H)	C ₂₀ (-4H)	C ₂₀ (-8H)	C ₂₂ (-2H)	C ₂₂ (-10H)				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)				(23)	(24)
61 Camel:																										
a Camelus bactrianus mesentery	--	--	--	--	--	6.3	28.8	27.4	1.6	64.1	--	--	0.5	3.2	26.4	1.9	0.9	25/ 3.0	--	--	--	--	--	35.1	0.3	61
b C. dromedarius hump	--	--	--	--	--	--	37.0	16.0	--	53.0	--	--	--	--	47.0	--	--	--	--	--	--	--	--	--	61	
62 Chimpanzee (Anthropopithecus troglodytes) body.	--	--	--	--	0.4	2.4	29.8	6.8	.2	39.6	--	0.3	.8	2/ 5.1	44.5	8.0	--	25/ 1.7	--	--	--	--	--	58.1	.3	62
63 Citellus citellus body (European rodent similar to squirrel).	--	--	--	--	--	--	--	--	--	23.9	--	--	--	--	70.5	5.1	--	--	--	--	--	--	--	61.4	.4	63
64 Crab, land (Birgus latro L.) depot fat.	--	--	1.0	4.1	43.0	19.6	15.2	2.2	--	85.1	--	--	.7	2.5	6.8	1.9	--	3.0				--	--	19.1	.3	64
65 Crocodile depot fat:																										
a Crocodylus niloticus, Tanganyika	--	--	--	--	--	3.9	24.0	3.4	1.3	32.6	--	--	1.0	26/15.0	30.8	6.5	3.1	6.5 (-5.8H)				4.2 (-7.9H)	96.8	.5	65	
b C. porosus, Tanganyika	--	--	--	--	.4	2.9	26.6	4.8	.6	35.3	--	.2	1.1	2/ 6.5	33.5	17.0	2.6	3.8 (-3.5H)				--	83.9	.3	65	
c Gavialis gangeticus, India	--	--	--	--	.2	4.2	25.8	8.7	--	38.9	--	--	2.0	11.6	35.5 (-3.0H)				12.0 (-5.5H)				72.6	--	65	
66 Deer:																										
a Fallow (species unknown) perinephric fat, New Zealand.	--	--	--	--	.1	5.1	35.9	29.6	6/2.9	73.6	--	--	.2	2.2	17.0	1.2	1.0	27/ 4.8	--	--	--	--	--	--	66	
b Stag (Cervus elaphus) body, Scotland.	--	--	--	--	--	4.4	25.1	35.4	1.5	66.4	--	--	.5	2.8	25.2	2.6	2.5	--	--	--	--	--	--	35.5	.3	66
67 Goat (Capra domestica):																										
a Back, male	--	--	--	--	3.5	2.1	25.4	28.1	2.4	61.5	--	--	--	--	38.4	--	--	--	--	--	--	--	--	33.5	.3	67
b Body, female	--	--	--	--	2.5	2.8	27.5	26.0	2.2	61.0	--	--	--	--	34.8	2.3	--	--	--	--	--	--	--	32.8	1.9	67
68 Hippopotamus (Hippopotamus amphibius) body.	--	--	--	--	--	2.3	27.1	22.2	1.1	52.7	--	--	.4	2.2	39.3	28/ 3.5	1.5	.4				--	--	46.2	.5	68
Horse (Equus caballus):																										
69 Fat horses:																										
a Liver glycerides	--	--	--	--	--	1.7	25.2	5.3	--	32.2	--	--	1.6	8.3	17.6	10.4	24.8	3.4 (-6.2H)				1.7 (-6.0H)	--	18.5	69	
b Muscle	--	--	--	--	.4	2.4	29.9	3.0	.2	35.9	--	--	1.5	8.7	34.9	3.4	12.5	3.1 (-4.4H)				--	2.7	69		
c Tissues	--	--	--	--	--	2.4	29.7	4.3	.2	36.6	--	--	1.4	6.5	32.5	3.8	16.1	3.1 (-3.3H)				--	.5	69		
70 Lean horses:																										
a Liver glycerides	--	--	--	--	--	.7	22.5	10.8	--	34.0	--	--	.6	6.1	20.1	9.3	20.1	9.6 (-6.0H)				--	31.4	70		
b Muscle	--	--	--	--	--	1.7	26.8	5.1	--	33.6	--	--	.8	7.9	33.6	6.2	14.7	3.2 (-4.8H)				--	6.1	70		
c Tissues	--	--	--	--	--	3.2	26.2	5.6	.3	35.3	--	--	.9	4.6	31.7	4.6	20.0	2.9 (-4.1H)				--	.2	70		
71 Pasture-fed:																										
a Hoof	--	--	--	--	--	.8	17.9	2.5	.7	21.9	--	Trace	.6	18.8	56.3 (-3.5H)				2.4 (-4.0H)				--	--	71	
b Offal	--	--	--	--	--	1.1	27.4	1.7	--	30.2	--	--	.8	10.5	56.8 (-3.4H)				1.7 (-4.0H)				--	--	71	
c Mesentery	--	--	--	--	--	2.1	26.7	3.9	--	32.7	--	Trace	1.8	4.3	37.5	5.4	17.4	.9 (-4.0H)				--	--	71		
72 Stall-fed:																										
a Kidney	--	--	--	--	.6	2.8	20.3	7.2	--	30.9	--	.1	.5	3.7	38.8	22.1	2.2	1.5				--	.2	72		
b Gelatinous marrow	--	--	--	--	--	2.7	22.0	1.6	--	26.3	--	--	1.1	10.8	36.3	14.6	2.4	8.4				--	.1	72		
c Porous bone marrow	--	--	--	--	--	4.4	20.0	2.2	.3	26.9	--	--	1.2	9.7	42.0	14.6	3.6	1.9				--	.1	72		
73 Various parts:																										
a Abdominal fat	--	--	--	--	--	--	27.5	4.7	--	32.2	--	--	--	--	49.1	12.4	4.7	--				82.7	.4	73		
b Liver glycerides	--	--	--	--	--	1.7	25.2	5.3	--	32.2	--	--	1.6	8.3	17.5	8.1	25.2	3.4 (-6.2H)				1.7 (-6.0H)	--	--	73	
c Liver phospholipids	--	--	--	--	--	--	10.8	20.7	4.6	36.1	--	--	--	2.0	15.8	30.7	4.1	10.4 (-5.7H)				.9 (-5.7H)	--	--	73	
d Mesentery	--	--	--	--	.4	4.5	25.9	4.7	.2	35.7	--	--	--	26/ 6.8	33.7	5.2	16.3	2.3				95.6	--	73		
e Tissues	--	--	--	--	--	--	29.5	6.8	--	36.3	--	--	--	--	55.2	6.7	1.7	--				75.2	.4	73		
74 Ostrich (Struthio camelus) body	--	--	--	--	--	.9	24.8	5.9	.4	32.0	--	--	.9	6.1	39.8	17.1	3.8	.3				80.4	.2	74		
Pork; Swine (Sus scrofa):																										
75 Back, outer layer	--	--	--	--	--	.8	27.0	12.0	--	39.8	--	--	--	5.4	47.6	5.9	--	1.3				--	--	75		
76 Bone fat (sow, 4 years old)	--	--	--	--	29/ .3	1.8	19.2	6.1	.6	28.0	--	--	.5	2.5	51.4	12.2	1.3	4.3				--	--	76		
77 Bone marrow:																										
a Femur	--	--	--	--	--	--	--	--	--	40.7	--	--	--	--	51.3	8.0	--	--	--	--	--	--	58.1	.1	77	
b Metatarsus	--	--	--	--	--	--	--	--	--	33.4	--	--	--	--	57.9	8.7	--	--	--	--	--	--	65.1	.1	77	
c Tibia and fibula	--	--	--	--	--	--	--	--	--	38.5	--	--	--	--	53.2	8.3	--	--	--	--	--	--	60.3	.2	77	
Cured meat:																										
78 Bacon (2 studies):																										
a Selected value	--	--	--	--	.1	1.0	21.7	9.7	.7	33.2	--	--	--	2.6	50.4	9.7	.4	2.6	30/0.7	0.4	--	--	67.4	--	78	
b Maximum	--	--	--	--	--	--	--	--	--	34.5	--	--	--	--	54.4	10.5	.6	--								

NOTE: Values based on single lots unless otherwise indicated. Degree of unsaturation unknown for grouped fatty acids unless otherwise indicated.

2/ Includes minor amounts of C₁₆(-4H).

6/ Contains minor amounts of higher saturated fatty acids.

25/ Reported "as eicosenoic, includes all unsaturated acids higher than C₁₈".26/ Includes minor amounts of C₁₆(-4H) and C₁₆(-6H).

27/ Degree of unsaturation unknown.

28/ Includes 1.9 percent octadecadienoic other than linoleic.

29/ Reported as "lauric and lower".

30/ Includes 0.1 percent C₂₀(-6H).

Table 1.--Land animals and their products: Composition and characteristics of fats based on technical literature for period 1920 - 1955 -- Continued

Item number and description	Saturated fatty acids (weight percentage of total fatty acids)										Unsaturated fatty acids (weight percentage of total fatty acids)												Iodine value	Unsaponifiable	Item number
	C ₄	C ₆	C ₈	C ₁₀	C ₁₂	C ₁₄	C ₁₆	C ₁₈	C ₂₀	Total	C ₁₀ (-2H)	C ₁₂ (-2H)	C ₁₄ (-2H)	C ₁₆ (-2H)	C ₁₈ (-2H)	C ₁₈ (-4H)	C ₁₈ (-6H)	C ₂₀ (-2H)	C ₂₀ (-4H)	C ₂₀ (-8H)	C ₂₂ (-2H)	C ₂₂ (-10H)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	
Pork; Swine (Sus scrofa) --Continued																									
Cured meat --Continued																									
Ham (2 studies):																									
a Selected value	--	--	--	--	0.5	1.8	21.7	13.7	0.4	38.1	--	--	0.1	2.7	44.4	9.2	0.6	3.6	31/0.9	0.4	--	--	64.2	--	80
b Maximum	--	--	--	--	--	--	--	--	--	38.1	--	--	--	--	56.1	9.2	0.6	--	--	0.4	--	--	--	--	a
c Minimum	--	--	--	--	--	--	--	--	--	35.4	--	--	--	--	44.4	7.8	0.5	--	--	0.4	--	--	--	--	b
d Samples	--	--	--	--	(1)	(1)	(1)	(1)	(1)	(2)	--	--	(1)	(1)	(2)	(2)	(2)	(1)	(1)	(2)	--	--	(1)	--	c
81 Ham:																									
a Raw	--	--	--	--	--	--	--	--	--	35.4	--	--	--	--	56.1	7.8	0.5	--	--	0.4	--	--	64.2	--	81
b Pan broiled	--	--	--	--	--	--	--	--	--	36.0	--	--	--	--	55.0	8.1	0.5	--	--	0.4	--	--	64.0	--	a
c Dripping	--	--	--	--	--	--	--	--	--	39.0	--	--	--	--	51.1	9.0	0.7	--	--	0.3	--	--	62.4	--	b
Effect of diet:																									
82 Back fat:																									
a Corn + tankage or fish meal	--	--	--	--	--	--	--	--	--	39.1	--	--	--	--	51.8	8.6	--	--	--	--	--	--	--	--	82
b Corn + tankage + other feeds	--	--	--	--	--	--	--	--	--	34.6	--	--	--	--	44.7	20.2	--	--	--	--	--	--	--	--	a
c Cornmeal mixed with peanut meal ..	--	--	--	--	--	--	--	--	--	31.6	--	--	--	--	55.0	13.6	--	--	--	--	0.1	--	--	--	b
d Peanuts	--	--	--	--	--	--	--	--	--	20.4	--	--	--	--	57.5	21.2	--	--	--	--	0.1	--	--	--	c
e Peanuts + corn with protein supplement.	--	--	--	--	--	--	--	--	--	31.0	--	--	--	--	56.8	11.9	--	--	--	--	0.1	--	--	--	d
f Rice polish + tankage	--	--	--	--	--	--	--	--	--	29.3	--	--	--	--	56.6	14.3	--	--	--	--	0.1	--	--	--	f
g Soybeans + corn	--	--	--	--	--	--	--	--	--	32.2	--	--	--	--	46.1	20.9	--	--	--	Trace	--	--	--	--	g
h Soybeans + corn with protein supplement.	--	--	--	--	--	--	--	--	--	34.6	--	--	--	--	52.5	9.5	--	--	--	0.1	--	--	--	--	h
83 Back fat (Brewer's rice + tankage), 2 studies:																									
a Selected value	--	--	--	--	--	1.7	26.3	12.1	--	40.1	--	--	--	--	58.5	1.4	--	--	--	Trace	--	--	--	--	83
b Maximum	--	--	--	--	--	--	--	--	--	40.1	--	--	--	--	58.7	2.0	--	--	--	Trace	--	--	--	--	a
c Minimum	--	--	--	--	--	--	--	--	--	39.2	--	--	--	--	58.5	1.3	--	--	--	Trace	--	--	--	--	b
d Samples	--	--	--	--	--	(1)	(1)	(1)	--	(2)	--	--	--	--	(2)	(2)	--	--	--	(2)	--	--	--	--	c
84 Back fat (soybeans), 2 studies:																									
a Selected value	--	--	--	--	--	0.5	15.6	8.4	--	24.5	--	--	--	--	40.5	34.5	0.4	--	--	0.1	--	--	--	--	84
b Maximum	--	--	--	--	--	0.7	17.4	9.4	--	27.5	--	--	--	--	40.9	37.2	0.5	--	--	0.1	--	--	--	--	a
c Minimum	--	--	--	--	--	0.3	13.7	7.4	--	21.4	--	--	--	--	37.8	31.9	0.2	--	--	0.1	--	--	--	--	b
d Samples	--	--	--	--	--	(2)	(2)	(2)	--	(3)	--	--	--	--	(3)	(3)	(2)	--	--	(3)	--	--	--	--	c
85 Meat fat:																									
a Corn + skim milk	--	--	--	--	--	0.6	25.2	12.7	--	38.5	--	--	--	--	54.4	7.0	--	--	--	0.1	--	--	--	--	85
b Peanuts	--	--	--	--	--	0.2	13.0	6.2	0.3	19.7	--	--	--	--	60.6	19.6	--	--	--	0.1	--	--	--	--	a
86 Pork loin (corn-fed):																									
a Separable fat	--	--	--	--	--	32/ 3.4	23.4	8.1	--	34.9	--	--	--	3.4	58.8	1.6	0.8	--	--	0.2	--	0.3	5/ 63.3	< 1	86
b Separable lean	--	--	--	--	--	32/15.2	11.7	7.2	--	34.1	--	--	--	2.0	59.7	3.5	0.4	--	--	0.1	--	0.2	5/ 64.4	< 1	a
87 Pork loin (garbage-fed):																									
a Separable fat	--	--	--	--	--	32/ 3.0	9.5	16.6	--	29.1	--	--	--	1.2	59.9	9.1	0.5	--	--	0.1	--	--	5/ 73.4	< 1	87
b Separable lean	--	--	--	--	--	32/ 3.5	1.8	41.3	--	46.6	--	--	--	0.9	49.9	2.5	0.1	--	--	--	--	--	5/ 50.6	< 1	a
88 Lard (6 studies): 33/																									
a Selected value	--	--	--	--	--	--	32.2	7.8	--	40.0	--	--	--	--	48.0	11.0	0.6	--	--	0.4	--	--	64.0	0.4	88
b Maximum	--	--	--	--	--	--	--	--	--	45.6	--	--	--	--	56.2	14.4	0.6	--	--	0.4	--	--	72.8	--	b
c Minimum	--	--	--	--	--	--	--	--	--	29.8	--	--	--	--	42.4	6.6	0.5	--	--	0.3	--	--	51.4	--	c
d Samples	--	--	--	--	--	--	(1)	(1)	--	(33)	--	--	--	--	(32)	(32)	(5)	--	--	(5)	--	--	(33)	(1)	d
89 Lard, completely hydrogenated	--	--	--	--	--	--	24.8	76.6	--	101.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	89
90 Liver	--	--	--	0.4	--	0.7	13.9	18.9	34/1.8	35.7	--	--	--	27/1.6	28.3	5.2	--	20.0		7.7		--	--	--	90
91 Pork ground:																									
a Raw	--	--	--	--	--	--	--	--	--	38.4	--	--	--	--	52.3	8.4	0.6	--	--	0.3	--	--	61.8	--	91
b Pan broiled	--	--	--	--	--	--	--	--	--	38.9	--	--	--	--	52.0	8.3	0.6	--	--	0.2	--	--	61.4	--	a
c Dripping	--	--	--	--	--	--	--	--	--	39.6	--	--	--	--	51.2	8.3	0.6	--	--	0.2	--	--	61.0	--	b
92 Pork loin:																									
a Raw	--	--	--	--	--	--	--	--	--	40.4	--	--	--	--	50.6	8.0	0.7	--	--	0.2	--	--	59.7	--	92
b Roasted	--	--	--	--	--	--	--	--	--	47.9	--	--	--	--	43.6	7.7	0.6	--	--	0.2	--	--	53.0	--	a
c Dripping	--	--	--	--	--	--	--	--	--	40.9	--	--	--	--	49.6	8.6	0.7	--	--	0.2	--	--	60.1	--	b
Stored cuts:																									
93 Hogs fed a fattening diet:																									
931 Butt:																									
a Before storage	--	--	--	--	--	--	--	--	--	40.3	--	--	--	--	47.6	11.0	0.5	--	--	0.6	--	--	66.0	--	93
b After 60 days at 33° F.(0.6° C.)	--	--	--	--	--	--	--	--	--	44.0	--	--	--	--	45.1	12.4	0.4	--	--	0.6	--	--	66.2	--	931
c After 479-501 days at 4° F. (-15.6° C.).	--	--	--	--	--	--	--	--	--	39.4	--	--	--	--	49.8	9.8	0.5	--	--	0.6	--	--	65.6	--	a
932 Loin:																									
a Before storage	--	--	--	--	--	--	--	--	--	42.1	--	--	--	--	48.4	8.5	0.4	--	--	0.6	--	--	62.0	--	932
b After 60 days at 33° F.(0.6° C.)	--	--	--	--	--	--	--	--	--	45.6	--	--	--	--	42.9	10.7	0.3	--	--	0.5	--	--	60.5	--	a
c After 479-501 days at 4° F. (-15.6° C.).	--	--	--	--	--	--	--	--	--	44.6	--	--	--	--	46.4	8.2	0.4	--	--	0.4	--	--	59.2	--	b

NOTE: Values based on single lots unless otherwise indicated. Degree of unsaturation unknown for grouped fatty acids unless otherwise indicated.

5/ Based on total fatty acids instead of total fat.

27/ Degree of unsaturation unknown.

31/ Includes 0.2 percent C₂₀(-6H).

32/ Reported as "< C₁₆".

33/ Mostly commercial samples.

34/ Includes C₂₀ - C₂₄ saturated acids.

Table 1.—Land animals and their products: Composition and characteristics of fats based on technical literature for period 1920 - 1955 -- Continued

Item number and description		Saturated fatty acids (weight percentage of total fatty acids)									Unsaturated fatty acids (weight percentage of total fatty acids)												Iodine value	Unsaponifiable	Item number			
		C ₄	C ₆	C ₈	C ₁₀	C ₁₂	C ₁₄	C ₁₆	C ₁₈	C ₂₀	Total	C ₁₀ (-2H)	C ₁₂ (-2H)	C ₁₄ (-2H)	C ₁₆ (-2H)	C ₁₈ (-2H)	C ₁₈ (-4H)	C ₁₈ (-6H)	C ₂₀ (-2H)	C ₂₀ (-4H)	C ₂₀ (-8H)	C ₂₂ (-2H)				C ₂₂ (-10H)		
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)				(22)	(23)	(24)
Pork; Swine (<i>Sus scrofa</i>) --Continued																												
Stored cuts --Continued																												
94	Hogs fed a maintenance diet:																									94		
94 ₁	Butt:																									94 ₁		
a	Before storage	--	--	--	--	--	--	--	--	40.8	--	--	--	--	47.3	11.0	0.4	--	--	0.5	--	--	--	--	65.4	--	a	
b	After 60 days at 33° F. (0.6° C.) ..	--	--	--	--	--	--	--	--	39.1	--	--	--	--	49.1	10.6	.5	--	--	.6	--	--	--	--	66.8	--	b	
c	After 479-501 days at 4° F. (-15.6° C.).	--	--	--	--	--	--	--	--	36.9	--	--	--	--	53.7	8.8	.4	--	--	.4	--	--	--	--	66.2	--	c	
Loin:																												
94 ₂	Before storage	--	--	--	--	--	--	--	--	44.7	--	--	--	--	43.4	10.9	.3	--	--	.5	--	--	--	--	61.6	--	94 ₂	
b	After 60 days at 33° F. (0.6° C.) ..	--	--	--	--	--	--	--	--	44.4	--	--	--	--	46.0	8.7	.5	--	--	.5	--	--	--	--	60.0	--	b	
c	After 479-501 days at 4° F. (-15.6° C.).	--	--	--	--	--	--	--	--	47.2	--	--	--	--	41.0	11.0	.5	--	--	.5	--	--	--	--	59.6	--	c	
95	Swine tissue fat	--	--	--	--	--	--	--	--	46.0	--	--	--	--	35/43.5	10.1	--	--	--	--	--	--	--	--	--	--	95	
96	Puma (<i>Felis concolor</i>):																									96		
a	Abdominal (from puma kept in captivity) ..	--	--	--	--	--	4.1	24.2	10.5	0.8	39.6	--	--	0.9	4.6	39.5	8.6	3.6	25/3.2	--	--	--	--	--	69.7	0.6	a	
b	Body (from wild puma)	--	--	--	--	--	1.3	22.4	26.9	3.7	54.3	--	--	--	12.6	26.2	2.3	--	27/4.6	--	--	--	--	--	38.8	1.3	b	
Rabbit (<i>Oryctolagus cuniculus</i>):																												
97	Domesticated:																									97		
a	Interscapular fat	--	--	--	--	2.4	3.8	29.0	4.0	--	39.2	--	0.1	1.4	26/6.9	36.7	11.8	2.0	1.9				--	66.3	--	a		
b	Perinephric fat	--	--	--	--	.4	5.5	30.5	5.0	--	41.4	--	--	--	26/5.9	31.9	16.3	3.1	1.4				--	72.3	--	b		
98	Wild, male:																									98		
Glycerides:																												
a	Abdominal cavity	--	--	--	--	--	1.6	22.2	6.4	.8	31.0	--	--	.4	4.4	13.1	9.2	40.5	1.3 (-4.8H)				--	--	--	.2	a	
b	Kidney	--	--	--	--	--	--	22.4	12.0	--	34.4	--	--	--	1.3	17.9	7.4	24.1	14.9 (-5.2H)				--	--	--	23.1	b	
c	Liver	--	--	--	--	--	--	19.8	18.0	.6	38.4	--	--	--	.6	11.5	13.1	11.0	21.8 (-5.8H)				3.6 (-5.8H)	--	--	--	13.9	c
d	Longissimus dorsi muscle	--	--	--	--	--	--	14.0	8.7	1.3	24.0	--	--	--	8.0	21.5	8.3	19.8	18.4 (-6.3H)				--	--	--	20.3	d	
99	Wild, female:																									99		
Glycerides:																												
a	Abdominal cavity	--	--	--	--	--	1.6	22.2	5.3	.7	29.8	--	--	.4	4.1	12.8	10.7	42.2	Trace				--	--	--	.5	a	
b	Kidney	--	--	--	--	--	1.7	21.2	2.4	4.4	29.7	--	--	--	4.5	25.5	5.7	30.0	4.5 (-4.4H)				--	--	--	12.7	b	
c	Liver	--	--	--	--	--	--	21.8	8.9	2.9	33.6	--	--	Trace	3.2	13.9	16.4	17.6	13.3 (-6.0H)				1.9 (-6.0H)	--	--	--	18.5	c
d	Longissimus dorsi muscle	--	--	--	--	--	--	18.2	8.0	1.1	27.3	--	--	--	4.2	24.8	6.8	23.4	13.5 (-3.7H)				--	--	--	16.2	d	
100	Wild, male:																									100		
Phospholipids:																												
a	Kidney	--	--	--	--	--	--	20.3	6.0	3.5	29.8	--	--	--	1.1	18.3	16.8	4.3	20.4 (-5.5H)				9.3 (-5.5H)	--	--	--	a	
b	Liver	--	--	--	--	--	--	10.3	13.1	18.5	41.9	--	--	--	1.3	6.4	22.7	6.8	18.2 (-5.2H)				2.6 (-5.2H)	--	--	--	b	
c	Longissimus dorsi muscle	--	--	--	--	--	--	21.2	5.5	9.8	36.5	--	--	--	5.2	23.1	7.8	3.6	16.1 (-3.8H)				7.7 (-3.8H)	--	--	--	c	
101	Wild, female:																									101		
Phospholipids:																												
a	Kidney	--	--	--	--	--	--	18.8	6.6	7.3	32.7	--	--	--	Trace	18.7	15.1	9.2	18.3 (-4.4H)				6.0 (-4.4H)	--	--	--	a	
b	Liver	--	--	--	--	--	--	11.1	26.8	9.1	47.0	--	--	--	1.1	9.7	24.7	7.6	9.8 (-6.0H)				--	--	--	b		
c	Longissimus dorsi muscle	--	--	--	--	--	--	19.1	7.8	8.3	35.2	--	--	--	3.5	19.7	12.3	3.1	20.0 (-5.6H)				6.2 (-5.6H)	--	--	--	c	
102	Reindeer:																									102		
American (<i>Rangifer</i> species unknown), body and kidney fat.		--	--	--	--	--	6.7	35.0	20.5	.7	62.9	--	--	--	--	36.8	--	--	--	--	--	--	--	--	--	.4		
103	European (<i>Rangifer tarandus</i>), bone marrow.	--	--	--	--	--	5.0	26.5	12.6	--	44.1	--	--	--	--	54.0	2.0	--	--	--	--	--	--	--	--	103		
104	Sausage:																									104		
a	Frankfurters	--	--	--	--	.1	1.1	25.0	11.5	.3	38.0	--	--	--	3.3	47.4	7.9	.5	2.1	30/ 0.5	.3	--	--	--	--	a		
b	Luncheon meat (cooked specialty sausage) ..	--	--	--	--	.2	.7	25.4	9.3	1.2	36.8	--	--	--	3.5	48.0	7.3	.1	3.0	30/ .7	.4	--	--	--	--	b		
c	Luncheon meat (canned sausage)	--	--	--	--	--	--	--	--	--	40.0	--	--	--	--	50.0	9.0	.6	--	--	.4	--	--	--	61.4	c		
Sheep (<i>Ovis aries</i>):																												
Lamb:																												
105	Bone fat	--	--	--	--	29/.9	4.9	18.9	8.3	.3	33.3	--	--	1.2	5.5	54.7	3.9	1.5	--	--	Trace	--	--	--				

NOTE: Values based on single lots unless otherwise indicated. Degree of unsaturation unknown for grouped fatty acids unless otherwise indicated.

25/ Reported "as eicosenoic, includes all unsaturated acids higher than C₁₈".26/ Includes minor amounts of C₁₆(-4H) and C₁₆(-6H).

27/ Degree of unsaturation unknown.

29/ Reported as "lauric and lower".

30/ Includes 0.1 percent C₂₀(-6H).

35/ Includes 0.4 percent vaccenic acid.

Table 1.--Land animals and their products: Composition and characteristics of fats based on technical literature for period 1920 - 1955 -- Continued

Item number and description	Saturated fatty acids (weight percentage of total fatty acids)										Unsaturated fatty acids (weight percentage of total fatty acids)											Iodine value	Unsaponifiable	Item number		
	C ₄	C ₆	C ₈	C ₁₀	C ₁₂	C ₁₄	C ₁₆	C ₁₈	C ₂₀	Total	C ₁₀ (-2H)	C ₁₂ (-2H)	C ₁₄ (-2H)	C ₁₆ (-2H)	C ₁₈ (-2H)	C ₁₈ (-4H)	C ₁₈ (-6H)	C ₂₀ (-2H)	C ₂₀ (-4H)	C ₂₀ (-8H)	C ₂₂ (-2H)				C ₂₂ (-10H)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)				(22)	(23)	(24)
Sheep (<i>Ovis aries</i>)--Continued																										
Lamb --Continued																										
Stored cuts:																										
Lambs fed a fattening diet:																										
Leg:																										
108 ₁ Before storage	--	--	--	--	--	--	--	--	--	49.1	--	--	--	--	44.7	5.6	0.4	--	--	--	0.3	--	--	52.3	--	108 ₁
a After 100 days at 33° F. (0.6° C.)	--	--	--	--	--	--	--	--	--	40.9	--	--	--	--	51.4	6.9	.4	--	--	--	.4	--	--	60.4	--	108 ₁
b After 1025 days at 4° F. (-15.6° C.)	--	--	--	--	--	--	--	--	--	45.1	--	--	--	--	49.4	4.7	.3	--	--	--	.5	--	--	55.5	--	108 ₁
c																										
Shoulder:																										
108 ₂ Before storage	--	--	--	--	--	--	--	--	--	45.3	--	--	--	--	48.6	5.4	.5	--	--	--	.3	--	--	55.7	--	108 ₂
a After 100 days at 33° F. (0.6° C.)	--	--	--	--	--	--	--	--	--	42.3	--	--	--	--	50.7	6.2	.4	--	--	--	.4	--	--	59.2	--	108 ₂
b After 1025 days at 4° F. (-15.6° C.)	--	--	--	--	--	--	--	--	--	48.2	--	--	--	--	45.1	5.8	.4	--	--	--	.5	--	--	53.8	--	108 ₂
c																										
Lambs fed a maintenance diet:																										
Leg:																										
109 ₁ Before storage	--	--	--	--	--	--	--	--	--	53.1	--	--	--	--	42.7	3.5	.5	--	--	--	.3	--	--	46.9	--	109 ₁
a After 100 days at 33° F. (0.6° C.)	--	--	--	--	--	--	--	--	--	52.1	--	--	--	--	43.8	3.4	.4	--	--	--	.3	--	--	47.6	--	109 ₁
b After 1025 days at 4° F. (-15.6° C.)	--	--	--	--	--	--	--	--	--	52.9	--	--	--	--	42.0	4.2	.3	--	--	--	.6	--	--	48.1	--	109 ₁
c																										
Shoulder:																										
109 ₂ Before storage	--	--	--	--	--	--	--	--	--	48.0	--	--	--	--	47.5	3.8	.5	--	--	--	.3	--	--	51.7	--	109 ₂
a After 100 days at 33° F. (0.6° C.)	--	--	--	--	--	--	--	--	--	48.7	--	--	--	--	47.3	3.3	.4	--	--	--	.4	--	--	50.8	--	109 ₂
b After 1025 days at 4° F. (-15.6° C.)	--	--	--	--	--	--	--	--	--	52.0	--	--	--	--	43.6	3.6	.4	--	--	--	.3	--	--	48.0	--	109 ₂
c																										
Mutton:																										
110 Body fat (from Indian sheep)	--	--	--	--	--	2.9	27.8	27.7	1.5	59.9	--	--	0.4	2.7	33.0	3.4	--	0.6				--	--	--	--	110
Loin chop:																										
Adipose tissue:																										
111 ₁ Selected value	--	--	--	--	--	2.9	22.1	24.6	1.0	50.6	--	--	.4	3.5	40.7	3.1	.7	--	--	--	1.0	--	--	--	--	111 ₁
a Maximum	--	--	--	--	--	2.9	22.5	26.5	1.6	--	--	--	.4	3.8	41.6	3.3	.9	--	--	--	1.2	--	--	--	--	111 ₁
b Minimum	--	--	--	--	--	2.9	21.8	22.6	.4	--	--	--	.3	3.2	39.8	3.0	.5	--	--	--	.8	--	--	--	--	111 ₁
c Samples	--	--	--	--	--	(2)	(2)	(2)	(2)	--	--	--	(2)	(2)	(2)	(2)	(2)	--	--	--	(2)	--	--	--	--	111 ₁
d																										
Muscle tissue:																										
111 ₂ Selected value	--	--	--	--	--	1.0	25.2	20.4	.6	47.2	--	--	.1	.7	44.1	3.9	.8	--	--	--	3.2	--	--	--	--	111 ₂
a Maximum	--	--	--	--	--	1.4	26.1	21.6	.8	--	--	--	.2	.8	45.1	4.2	1.1	--	--	--	3.3	--	--	--	--	111 ₂
b Minimum	--	--	--	--	--	.6	24.3	19.1	.3	--	--	--	Trace	.6	43.1	3.6	.6	--	--	--	3.2	--	--	--	--	111 ₂
c Samples	--	--	--	--	--	(2)	(2)	(2)	(2)	--	--	--	(2)	(2)	(2)	(2)	(2)	--	--	--	(2)	--	--	--	--	111 ₂
d																										
112 Tallow	--	--	--	--	--	4.6	24.6	30.5	--	59.7	--	--	--	--	36.0	4.3	--	--	--	--	--	--	--	--	--	112
113 Tissue fat	--	--	--	--	--	--	--	--	--	51.7	--	--	--	--	36/40.6	7.7	--	--	--	--	--	--	--	--	--	113
Snake, depot fat:																										
114 _a Diamond (<i>Python spilotes</i>), India	--	--	--	--	--	1.6	15.7	13.3	1.0	31.6	--	--	.2	5.2	36.8	9.4	3.2	12.8	--	.8	--	--	76.7	--	114 _a	
b Python (<i>P. molurus</i>), India	--	--	--	--	--	--	16.0	10.1	2.2	28.3	--	--	--	4.8	41.3	7.6	3.0	11.9	--	--	3.1	--	75.4	--	114 _b	
c Python (<i>P. reticulatus</i>), England	--	--	--	--	--	1.3	19.7	10.8	1.2	33.0	--	--	.5	3.9	47.0	10.7	.8	25/ 41.1	--	--	--	--	73.0	0.4	114 _c	
Tiger (<i>Felis tigris</i>):																										
115 _a Body, India	--	--	--	--	--	1.0	22.5	24.6	1.2	49.3	--	--	.6	7.1	38.9	4.1	--	--	--	--	--	--	--	--	115 _a	
b Groin (from tiger kept in captivity)	--	--	--	--	--	3.0	26.8	10.7	--	40.5	--	--	.6	26/6.0	38.1	6.2	6.8	25/ 1.8	--	--	--	--	70.5	.1	115 _b	
Toad (<i>Bufo arenarum</i>), carcass fat	--	--	--	--	0.5	3.4	18.2	3.8	.5	26.4	--	0.1	1.1	13.1	57.9 (-2.7H)			1.4 (-3.4H)			--	--	--	.6	116	
Turtle, sea, depot fat:																										
117 Dark sea turtle (<i>Lepidochelys olivacea</i>), Mexico.	--	--	--	--	--	1.8	26.1	5.5	--	33.4	--	--	--	11.7	40.0 (-3.1H)			14.8 (-5.0H)			--	--	93.3	1.9	117	
118 Dull sea turtle (<i>Caretta caretta</i>), Mexico.	--	--	--	--	--	6.6	21.8	15.5	1.9	45.8	--	--	3.5	18.0	31.4 (-3.7H)			1.3 (-8.6H)			--	--	76.6	3.0	118	
Green turtle (<i>Chelonia mydas</i>):																										
119 _a Mexico, summer	--	--	--	0.8	10.2	9.4	17.2	7.0	1.4	46.0	--	--	.9													

NOTE: Values based on single lots unless otherwise indicated. Degree of unsaturation unknown for grouped fatty acids unless otherwise indicated.

25/ Reported "as eicosenoic, includes all unsaturated acids higher than C₁₈".26/ Includes minor amounts of C₁₆(-4H) and C₁₆(-6H).

36/ Includes 3.6 percent vaccenic acid.

Table 2.—Aquatic animals and their products: Composition and characteristics of fats based on technical literature for period 1920 - 1955

Item number and description	Saturated fatty acids (weight percentage of total fatty acids)								Unsaturated fatty acids (weight percentage of total fatty acids)																		Iodine value (29)	Unsat- ponifi- able (30)	Item number		
	C ₅ (1)	C ₁₀ (2)	C ₁₂ (3)	C ₁₄ (4)	C ₁₆ (5)	C ₁₈ (6)	C ₂₀ (7)	Total (8)	C ₁₄ (-2H) (9)	C ₁₆ (-2H) (10)	C ₁₆ (-6H) (11)	C ₁₈ (-2H) (12)	C ₁₈ (-4H) (13)	C ₁₈ (-6H) (14)	C ₁₈ (-8H) (15)	C ₂₀ (-2H) (16)	C ₂₀ (-4H) (17)	C ₂₀ (-6H) (18)	C ₂₀ (-8H) (19)	C ₂₀ (-10H) (20)	C ₂₂ (-2H) (21)	C ₂₂ (-4H) (22)	C ₂₂ (-6H) (23)	C ₂₂ (-8H) (24)	C ₂₂ (-10H) (25)	C ₂₂ (-12H) (26)				C ₂₄ (-2H) (27)	C ₂₄ (-10H) (28)
1 Angler (<i>Lophius piscatorius</i>) liver, North Sea.	—	—	—	4.9	9.6	1.3	—	15.8	0.4	12.1 (-2.0H)		30.9 (-3.3H)		—	24.9 (-5.9H)				15.9 (-8.6H)						—	162.3	1.0	1			
2 Armado (<i>Pterodoras granulosus</i>) mesentery, Argentina.	—	—	—	2.6	27.8	10.4	0.9	41.7	.6	7.8 (-2.0H)		40.0 (-2.3H)		—	9.7 (-3.6H)				—						—	68.3	—	2			
3 Bhakur (<i>Catla buehanani</i>) body, India. (FW)	—	—	—	2.9	28.9	6.5	—	38.3	.2	25.3 (-2.7H)		17.9 (-2.5H)		—	7.5 (-5.7H)				10.1 (-9.0H)						1/ 0.5	97.9	—	3			
4 Boga (<i>Leporinus affinis</i>) mesentery, Argentina.	—	—	—	2.6	23.6	7.8	.6	34.6	.6	10.5	0.2	34.1 (-2.6H)		—	14.3 (-5.6H)				5.7 (-8.1H)						—	93.5	.5	4			
5 Carp (<i>Cyprinus carpio</i>) body and head tissues. (FW)	—	—	—	3.7	14.6	1.9	—	20.2	1.0	17.8 (-2.0H)		45.8 (-3.2H)		—	15.2 (-6.9H)				—						—	122.9	3.5	5			
6 Carp (<i>Ctenopharyngodon idellus</i>) grass-feeding, Singapore:																													6		
a Mesentery	—	—	—	1.9	14.7	2.5	—	19.1	.2	8.0 (-2.0H)		64.6 (-3.7H)		—	7.6 (-6.0H)				1/ .5						—	130.0	.7	a			
b Muscle	—	—	—	1.5	13.6	2.5	—	17.6	1.5	6.7 (-2.0H)		64.0 (-4.9H)		—	10.2 (-6.4H)				—						—	149.7	2.0	b			
c Muscle	—	—	—	2.6	18.0	1.9	—	22.5	.7	22.9 (-2.1H)		45.7 (-3.0H)		—	8.2 (-6.5H)				—						—	118.8	4.4	c			
7 Carp (<i>Hypophthalmichthys molitrix</i>) mud-feeding, body, Singapore. (FW)	—	—	—	.8	21.3	1.1	—	23.2	.6	17.1 (-2.1H)		49.5 (-3.0H)		—	9.6 (-6.7H)				Trace						—	121.2	2.4	7			
8 Carp (<i>Hypophthalmichthys nobilis</i>) mud-feeding, body, Singapore. (FW)	—	—	—	—	17.0	6.0	—	23.0	—	9.5 (-2.0H)		54.0 (-3.6H)		—	13.5 (-6.8H)				—						—	129.3	9.5	8			
9 Cod (<i>Gadus morrhua</i>) liver oil, North Sea	—	—	—	1.4	12.3	1.5	—	15.2	1.7	8.2 (-2.0H)		25.7 (-3.3H)		—	27.3 (-5.5H)				21.9 (-7.4H)						Trace	177.7	—	9			
10 Cuttle-fish (<i>Ommastrephes solani pacificus</i>) viscera oil, dried, Japan. 2/	—	0.1	0.5	3.6	13.6	4.8	.3	22.9	1.2	5.8	.1	11.3	—	6.2	0.4	9.8	—	—	20.5	1.3	1.3	—	—	—	3.5	6.2	4.4	2.0 (-10.0H)	197.5	4.5	10
11 Dolphin, species unknown (immature sample):																													11		
a Body blubber	3/ 3.2	—	1.0	7.2	8.6	.8	—	20.8	4.7	1/25.9		24.1 (-3.3H)		—	18.6 (-6.5H)				5.9 (-7.6H)						—	136.0	2.2	a			
b Head blubber	3/13.9	—	2.4	12.5	11.6	.4	—	40.8	2.7	1/25.4		15.8 (-2.8H)		—	12.7 (-5.5H)				2.6 (-7.2H)						—	82.3	7.5	b			
12 Eel (<i>Anguilla vulgaris</i>) body, Scotland (2 studies): (FW)																													12		
a Selected value	—	—	—	4.3	17.6	2.1	—	24.0	.1	9.1 (-2.2H)		37.8 (-2.6H)		—	20.6 (-5.8H)				8.4 (-9.7H)						—	118.8	—	a			
b Maximum	—	—	—	4.3	17.8	2.5	—	—	.1	9.2 (-2.2H)		39.4 (-2.5H)		—	20.8 (-5.6H)				8.5 (-9.3H)						—	119.0	—	b			
c Minimum	—	—	—	4.3	16.8	1.7	—	—	Trace	8.8 (-2.2H)		28.9 (-2.6H)		—	20.1 (-6.0H)				7.3 (-10.2H)						—	118.5	—	c			
d Samples	—	—	—	(3)	(3)	(3)	—	—	(3)	(3)		(3)		—	(3)				(3)						—	(2)	—	d			
13 Eel (<i>Anguilla vulgaris</i>) body (effect of high-and low-fat diets) Scotland: (FW)																													13		
a Control	—	—	—	4.3	17.8	1.7	—	23.8	Trace	9.2 (-2.2H)		38.4 (-2.4H)		—	20.1 (-6.0H)				8.5 (-9.3H)						—	119.0	—	a			
b Fresh water, 14° C.; diet: herring, 20.7% fat content.	—	—	—	6.4	17.1	1.3	—	24.8	—	6.9 (-2.4H)		31.9 (-3.0H)		—	22.2 (-5.4H)				14.2 (-7.5H)						—	140.4	—	b			
c Fresh water, 23° C.; diet: herring, 20.7% fat content.	—	—	—	6.0	16.5	1.1	—	23.6	.6	8.3 (-2.2H)		33.9 (-2.8H)		—	22.6 (-5.5H)				11.0 (-7.0H)						—	137.6	—	c			
d Sea water, 14° C.; diet: shelled mussels, 1.1% fat content.	—	—	—	4.8	17.6	2.6	—	25.0	—	9.4 (-2.2H)		41.6 (-2.4H)		—	16.4 (-5.3H)				7.6 (-9.1H)						—	114.1	—	d			
14 Eel (<i>Anguilla fluviatilis</i>) smoked (FW)	—	—	—	—	—	—	—	14.1	—	—		4/35.1		33.0	17.8	—	—				—						—	133.3	.4	14	
15 Eel (<i>Conger vulgaris</i>), North Sea:																													15		
a Liver	—	—	—	5.2	19.2	.4	—	24.8	.4	1/18.0		37.5 (-2.0H)		—	12.4 (-5.6H)				6.9 (-8.1H)						—	109.4	2.5	a			
b Peritoneum	—	—	—	1.8	18.8	.9	—	21.5	—	1/ 6.2		40.6 (-2.1H)		—	18.3 (-5.4H)				13.4 (-8.4H)						—	141.7	.7	b			
16 Fish body (comparative analysis):																													16		
a Brown trout (<i>Salmo trutta</i>) (FW)...	—	—	—	3.1	19.0	4.5	—	26.6	.4	11.5 (-2.6H)		38.3 (-3.9H)		—	15.0 (-7.8H)				8.2 (-10.1H)						—	—	—	—	—	—	
b Halibut (<i>Hippoglossus hippoglossus</i>)	—	—	—	4.0	14.8	.7	—	19.5	Trace	6.5 (-2.6H)		23.8 (-3.0H)		—	26.9 (-5.2H)				23.3 (-6.5H)						—	—	—	—	—	—	
c Lampern (<i>Petromyzon fluviatilis</i>) (FW)	—	—	—	9.5	17.6	.7	—	27.8	—	10.9 (-2.1H)		35.3 (-2.6H)		—	15.3 (-6.5H)				10.7 (-10.3H)						—	—	—	—	—	—	
d Sea trout (<i>Salmo trutta</i>) (FW) ...	—	—	—	2.2	17.0	4.0	.4	23.6	.1	8.8 (-2.4H)		26.3 (-3.0H)		—	19.7 (-6.6H)				19.0 (-9.2H)						1/ 2.5	—	—	—	—	—	
e Turbot (<i>Rhombus maximus</i>)	—	—	—	3.4	15.1	2.1	—	20.6	.3	8.9 (-2.6H)		21.7 (-3.4H)		—	26.6 (-6.0H)				21.9 (-7.7H)						—	—	—	—	—	—	
17 Fish liver (comparative analysis):																													17		
a Angel (<i>Squatina angelus</i>)	—	—	—	1.4	14.0	2.0	—	20.4	—	6.5 (-2.0H)		20.7 (-3.0H)		—	21.9 (-6.0H)				30.5 (-10.2H)						—	—	—	—	—	—	
b Catfish (<i>Anarhichas lupus</i>)	—	—	—	1.5	17.9	2.3	—	21.7	—	11.7 (-2.2H)		46.8 (-2.6H)		—	12.0 (-6.4H)				5.9 (-8.2H)						1/ 1.9	—	—	—	—	—	
c Pollack (<i>Gadus pollachius</i>)	—	—	—	2.1	13.0	1.4	—	16.5	—	10.9 (-2.0H)		34.2 (-2.7H)		—	25.4 (-5.4H)				13.0 (-6.5H)						—	—	—	—	—	—	
d Ratfish (<i>Chimaera monstrosa</i>)	—	—	—	—	8.4	7.2	1.3	5/17.3	—	1/2.5		50.6 (-2.2H)		—	19.6 (-2.9H)				7.9 (-3.5H)												
e Spotted dogfish (<i>Scylium canicula</i>)	—	—	—	1.7	15.7	3.3	—	20.7	—	4.0 (-2.2H)		25.3 (-3.0H)		—	24.4 (-6.4H)				24.8 (-9.2H)						1/ 2.1	—	—	—	—	—	
f Turbot (<i>Rhombus maximus</i>)	—	—	—	7.6	14.9	.8	—	23.3	1.5	21.4 (-2.1H)		44.0 (-6.1H)		—	14.0 (-6.1H)				12.7 (-6.7H)						Trace	—	—	—	—	—	

Item number and description		Saturated fatty acids (weight percentage of total fatty acids)								Unsaturated fatty acids (weight percentage of total fatty acids)																		Iodine value (29)	Unsa- ponifi- able (30)	Item number			
		C5	C10	C12	C14	C16	C18	C20	Total	C14(-2H)	C16(-2H)	C16(-6H)	C18(-2H)	C18(-4H)	C18(-6H)	C18(-8H)	C20(-2H)	C20(-4H)	C20(-6H)	C20(-8H)	C20(-10H)	C22(-2H)	C22(-4H)	C22(-6H)	C22(-8H)	C22(-10H)	C22(-12H)				C24(-2H)	C24(-10H)	
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)				(27)	(28)	
18	Grouper (<i>Epinephelus aeneus</i>) tissues, Africa.	---	---	---	5.2	11.3	---	---	16.5	2.6	6/16.4	---	13.8	19.4	7.9	---	7/ 1.0	5.4	2.9	5.0	---	---	---	---	6.2	2.8	---	---	---	---	---	pct.	18
19	Haddock (<i>Melanogrammus aeglefinus</i>) flesh:	---	---	---	---	8	6	---	14	---	---	---	20 (-3.4H)	---	---	---	---	29 (-6.1H)	---	---	---	---	37 (-7.8H)	---	---	---	---	---	---	---	---	19	
a	Cholesterol esters	---	---	---	---	18	7	2	27	---	---	---	14 (-1.2H)	---	---	---	---	35 (-7.6H)	---	---	---	---	24 (-10.8H)	---	---	---	---	---	---	---	---	a	
b	Lecithins	---	---	---	Trace	14	7	---	21	---	1/14	---	26 (-1.0H)	---	---	---	---	26 (-7.0H)	---	---	---	---	13 (-10.8H)	---	---	---	---	---	---	---	---	b	
c	Triglycerides	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	c	
20	Haddock (<i>Melanogrammus aeglefinus</i>) liver, North Sea.	---	---	---	4.3	14.1	.3	---	18.7	.5	12.4 (-2.0H)	---	30.5 (-2.6H)	---	---	---	---	29.3 (-5.9H)	---	---	---	---	8.6 (-7.3H)	---	---	---	---	---	---	168.5	0.7	20	
21	Halibut (<i>Hippoglossus vulgaris</i>) liver, North Sea.	---	---	---	3.9	15.1	.5	---	19.5	---	18.7 (-2.0H)	---	34.4 (-2.0H)	---	---	---	---	13.8 (-5.5H)	---	---	---	---	13.6 (-7.6H)	---	---	---	---	---	---	120.0	6.6	21	
22	Herring (<i>Clupea harengus</i>): Body (Iceland)	---	---	---	7.1	11.7	.8	.1	19.7	1.2	11.8 (-2.4H)	---	19.6 (-3.5H)	---	---	---	---	25.9 (-5.2H)	---	---	---	---	21.7 (-4.3H)	---	---	---	---	---	---	140.0	---	22	
23	Body plus head and bones (North Sea): Month caught: 8/	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	23	
a	April	---	---	---	8.0	15.7	.2	---	23.9	---	4.6 (-2.6H)	---	22.2 (-2.9H)	---	---	---	---	22.0 (-3.9H)	---	---	---	---	27.3 (-4.2H)	---	---	---	---	---	---	115.5	---	a	
b	June	---	---	---	7.3	16.7	Trace	---	24.0	.6	7.5 (-2.7H)	---	21.1 (-3.3H)	---	---	---	---	27.3 (-4.8H)	---	---	---	---	19.5 (-5.7H)	---	---	---	---	---	---	144.2	---	b	
c	June	---	---	---	7.5	12.3	.1	---	20.4	.3	7.0 (-3.0H)	---	21.1 (-4.8H)	---	---	---	---	30.0 (-5.2H)	---	---	---	---	21.2 (-4.8H)	---	---	---	---	---	---	154.3	---	c	
d	July	---	---	---	8.3	12.1	.3	---	20.7	.5	6.4 (-3.4H)	---	21.0 (-4.5H)	---	---	---	---	28.3 (-5.5H)	---	---	---	---	23.1 (-4.6H)	---	---	---	---	---	---	152.5	---	d	
e	October	---	---	---	7.3	13.0	Trace	---	20.3	.8	4.9 (-2.7H)	---	20.7 (-4.2H)	---	---	---	---	30.1 (-4.6H)	---	---	---	---	23.2 (-4.3H)	---	---	---	---	---	---	138.6	---	e	
f	October	---	---	---	6.6	13.7	.5	---	20.8	.2	4.9 (-2.8H)	---	16.3 (-3.6H)	---	---	---	---	28.7 (-4.4H)	---	---	---	---	29.1 (-4.1H)	---	---	---	---	---	---	129.9	---	f	
g	April 9/	---	---	---	5.8	12.4	.6	---	18.8	---	4.7 (-3.0H)	---	17.8 (-3.9H)	---	---	---	---	31.1 (-4.3H)	---	---	---	---	27.6 (-4.8H)	---	---	---	---	---	---	147.9	---	g	
24	Oil completely hydrogenated (Japan)...	---	---	---	2.1	20.8	34.4	29.2	10/100.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	.5	---	24	
25	Visceral fat (Irish Sea)	---	---	---	5.8	15.7	2.8	.3	24.6	1.4	10.5 (-2.5H)	---	31.8 (-2.6H)	---	---	---	---	22.4 (-7.1H)	---	---	---	---	9.3 (-10.5H)	---	---	---	---	---	---	146.8	.1	25	
26	Jacopever (<i>Sebastichthys capensis</i>), South Africa:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	26	
a	Body	---	---	---	2.6	13.8	1.3	11/ .2	18.4	2.3	12.4 (-2.0H)	---	28.5 (-2.4H)	---	---	---	---	21.6 (-7.0H)	---	---	---	---	16.8 (-9.5H)	---	---	---	---	---	---	---	---	a	
b	Head	---	---	---	2.6	16.3	2.1	11/ .8	21.8	.9	11.3 (-2.0H)	---	30.3 (-3.0H)	---	---	---	---	18.8 (-6.8H)	---	---	---	---	15.5 (-9.6H)	---	---	---	---	---	---	---	---	b	
c	Intestines	---	---	---	3.0	14.4	2.2	11/ .1	19.7	1.9	13.1 (-2.0H)	---	30.6 (-2.5H)	---	---	---	---	19.7 (-6.9H)	---	---	---	---	12.3 (-9.2H)	---	---	---	---	---	---	---	---	c	
d	Liver	---	---	---	1.2	11.6	3.9	11/ .4	17.1	.6	13.5 (-2.0H)	---	46.3 (-2.3H)	---	---	---	---	12.7 (-6.3H)	---	---	---	---	7.5 (-8.7H)	---	---	---	---	---	---	---	---	d	
27	Maasbanker (<i>Trachurus trachurus</i>) body, South Africa.	---	---	0.4	7.3	13.1	2.0	.4	12/ 23.8	2.8	14.1 (-3.0H)	---	19.0 (-3.8H)	---	---	---	---	19.4 (-7.9H)	---	---	---	---	20.7 (-5.3H)	---	---	---	.2 (-4.0H)	---	---	161.5	2.3	27	
28	Menhaden (<i>Brevoortia tyrannus</i>), North Atlantic:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	28	
a	Body	---	---	---	6.8	15.5	3.1	---	25.4	.1	14.1	0.8	15.7	3.6	1.9	2.5	---	1/17.5	---	---	---	---	1/10.8	---	---	---	1/ 13/ 4.0	---	---	---	---	a	
b	Commercial oil	---	---	---	8.3	14.9	4.7	---	27.9	5.8	23.4 (-2.0H)	---	31.1 (-3.9H)	---	---	---	---	8.4 (-5.6H)	---	---	---	---	3.4 (-6.4H)	---	---	---	---	---	---	---	---	b	
29	Main (<i>Cirrhina mrigala</i>), India:(FW)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	29	
a	Body	---	---	---	1.9	21.4	3.1	---	26.4	3.7	32.6 (-2.2H)	---	29.5 (-3.6H)	---	---	---	---	5.0 (-4.9H)	---	---	---	---	2.8 (-6.0H)	---	---	---	---	---	---	.5	---	a	
b	Viscera	---	---	---	5.7	20.1	5.7	.5	32.0	4.2	26.5 (-2.2H)	---	32.3 (-2.9H)	---	---	---	---	5.0 (-4.6H)	---	---	---	---	---	---	---	---	---	---	---	---	---	b	
30	Pala (<i>Hilsa ilisha</i>) body, India	---	---	---	5.3	23.5	8.9	Trace	37.7	1.3	6.8	---	32.9	1.7	9.7	---	9.0	---	---	.5	---	---	---	---	---	---	---	---	---	77.4	---	30	
31	Perch (<i>Perca fluviatilis</i>) muscle, Scotland (FW).	---	---	---	3.5	12.5	2.0	---	18.0	1.1	19.4 (-2.0H)	---	40.5 (-3.2H)	---	---	---	---	13.8 (-6.8H)	---	---	---	---	7.1 (-9.2H)	---	---	---	---	---	---	131.7	6.0	31	
32	Pike (<i>Esox lucius</i>), Scotland: (FW)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	32	
a	Mesentery	---	---	---	2.9	15.0	Trace	---	17.9	.5	20.2 (-2.0H)	---	42.4 (-3.4H)	---	---	---	---	15.1 (-6.7H)	---	---	---	---	3.9 (-8.0H)	---	---	---	---	---	---	134.2	.1	a	
b	Muscle	---	---	---	4.7	13.2	.5	---	18.4	.8	20.8 (-2.0H)	---	38.4 (-2.8H)	---	---	---	---	15.3 (-7.5H)	---	---	---	---	6.3 (-7.5H)	---	---	---	---	---	---	145.9	4.0	b	
33	Pilchard (<i>Sardina ocellata</i>) body, South Africa.	---	---	---	6.7	17.4	2.1	.4	14/ 26.9	1.9	15.0 (-3.5H)	---	19.8 (-4.1H)	---	---	---	---	25.8 (-9.4H)	---	---	---	---	10.6 (-9.2H)	---	---	---	---	---	---	196.5	1.6	33	
34	Pilchard (<i>Sardinops caerulea</i>) body, Pacific.	---	---	---	5.1	14.4	3.2	---	22.7	.1	11.7 (-2.0H)	---	17.7 (-3.3H)	---	---	---	---	17.9 (-4.1H)	---	---	---	---	13.8 (-8.5H)	---	---	---	15.2 (-10.9H)	---	---	183.9	6.2	34	
35	<i>Pimelodus albicans</i> mesentery, Argentina: 15/ (FW)	---	---	---	3.2	22.6	8.4	.6	34.8	.4	7.3 (-2.0H)	---	50.5 (-2.4H)	---	---	---	---	5.9 (-5.5H)	---	---	---	---	1.2 (-9.7H)	---	---	---	---	---	---	78.1	4.5	35	
36	Plankton crustacea: Copepod (<i>Calanus finmarchicus</i>)	---	---	---	8.3	10.6	1.3	---	20.2	1.6	11.8 (-2.4H)	---	16.8 (-5.1H)	---	---	---	---	24.5 (-7.8H)	---	---	---	---	25.1 (-8.1H)	---	---	---	---	---	---	177.6	16/32.0	36	
37	Copepod (<i>Cyclops strenuus</i>) (FW)	---	---	---	5.9	15.6	1.0	---	22.5	2.9	30.3 (-3.0H)	---	25.2 (-5.2H)	---	---	---	---	15.6 (-8.6H)	---	---	---	---	1/ 3.5	---	---	---	---	---	---	236.2	16/20.0	37	
38	Zooplankton (<i>Daphnia galeata</i>) (FW) ...	---	---	.9	3.5	13.0	1.7	---	19.1	2.8	21.1 (-2.0H)	---	44.9 (-5.0H)	---	---	---	---	12.1 (-8.0H)	---	---	---	---	---	---	---	---	---	---	---	142.9	16/22.3	38	
39	Zooplankton (<i>Diaptomus gracilis</i>) (FW)	---	---	---	2.6	20.0	1.6	---	24.2	---	15.7 (-2.0H)	---	34.6 (-4.5H (-																				

NOTE: FW indicates a fresh water animal; FWM indicates an animal which is both marine and fresh water; undesignated is the marine animal.
Values based on single lots unless otherwise stated.

1/ Degree of unsaturation unknown.

6/ Zoomaric.

7/ Gadoleic.

8/ June and July were months of intensive feeding. A major ingredient of the diet is the copepod which has a high fat content.

9/ Immature herring.

10/ Includes 7.3 percent C₂₂ and 6.2 percent C₂₄.

11/ Includes C₂₀-C₂₂ saturated acids.

12/ Includes 0.6 percent C₂₂.

13/ Also 3.6 percent C₂₆ and higher unsaturated acids.

14/ Includes 0.3 percent C₂₂.

15/ An omnivorous fresh-water fish, less unsaturated than most fresh-water fish.

16/ Total saponifiable reported.

Table 2.--Aquatic animals and their products: Composition and characteristics of fats based on technical literature for period 1920 - 1955 -- Continued

Item number and description	Saturated fatty acids (weight percentage of total fatty acids)								Unsaturated fatty acids (weight percentage of total fatty acids)																		Iodine value	Unsa- ponifi- able	Item number			
	C ₅	C ₁₀	C ₁₂	C ₁₄	C ₁₆	C ₁₈	C ₂₀	Total	C ₁₄ (-2H)	C ₁₆ (-2H)	C ₁₆ (-6H)	C ₁₈ (-2H)	C ₁₈ (-4H)	C ₁₈ (-6H)	C ₁₈ (-8H)	C ₂₀ (-2H)	C ₂₀ (-4H)	C ₂₀ (-6H)	C ₂₀ (-8H)	C ₂₀ (-10H)	C ₂₂ (-2H)	C ₂₂ (-4H)	C ₂₂ (-6H)	C ₂₂ (-8H)	C ₂₂ (-10H)	C ₂₂ (-12H)				C ₂₄ (-2H)	C ₂₄ (-10H)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)				(27)	(28)	
40 Pollan (<i>Coregonus pollan</i>) muscle, Ireland (FW).	--	--	--	2.5	14.3	1.9	--	19.1	1.5	19.8 (-2.0H)		40.6 (-3.2H)			--	13.5 (-7.4H)				6.1 (-9.1H)				--	--	136.8	1.5	40				
41 Pollock (<i>Gadus pollachius</i>) liver oil completely hydrogenated, Alaska.	--	--	--	1.0	14.0	38.0	19.0	17/99.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	41
42 Pomfret, black (<i>Stromateus niger</i>) body, Coast of Bombay.	--	--	--	4.4	13.3	7.3	.5	25.5	2.4	18.8	--	33.2	0.4	1.7	--	4.5	--	--	6.7	--	3.4	--	--	--	3.4	--	--	--	--	105.3	--	42
43 Pomfret, white (<i>Stromateus cinereus</i>) body, Coast of Bombay.	--	--	--	4.7	20.6	11.1	--	36.4	1.4	9.2	--	33.2	3.6	3.6	--	7.5	--	--	5.1	--	--	--	--	--	--	--	--	--	--	78.3	--	43
44 Porpoise (<i>Phocoena phocoena</i>):																																
a Body blubber	13.6	--	3.5	12.1	4.7	--	--	33.9	18/ 4.7	1/27.2		16.7 (-2.8H)			--			10.5 (-4.8H)						7.0 (-4.9H)						88.8	2.4	44a
b Foetal body blubber	1.2	--	--	14.9	4.6	--	--	16.7	12.3	1/48.1		15.4 (-4.0H)			--			7.5 (-7.4H)						--						108.9	2.4	44b
c Head blubber	20.8	--	4.1	15.8	7.5	.2	--	48.4	4.6	1/20.8		15.2 (-2.6H)			--			9.4 (-4.5H)						1.6 (-4.7H)						64.8	2.1	44c
d Heart	--	--	--	8.1	8.2	--	--	20.7	4.4	1/16.8		50.4 (-3.6H)			--			7.6 (-5.4H)						--						121.3	9.7	44d
e Jaw	25.3	--	4.6	28.3	4.1	--	--	62.3	18/ 3.2	1/20.3		9.3 (-2.6H)			--			4.9 (-4.9H)						--						144.9	3.6	44e
f Liver	--	--	--	--	7.6	5.5	--	13.1	--	1/ 6.1		42.5 (-2.8H)			--			27.3 (-5.4H)						11.0 (-6.5H)						175.0	32.1	44f
g Lungs	--	--	--	4.6	9.0	1.2	--	14.8	.1	1/16.5		27.0 (-2.4H)			--			31.0 (-3.3H)						10.6 (-5.4H)						119.5	15.0	44g
45 Rohu (<i>Labeo rohita</i>), India: (FW)																																
a Body	--	--	--	3.4	21.2	11.5	.5	36.6	3.7	8.1 (-2.2H)		32.2 (-3.3H)			--			12.4 (-5.2H)									0.3 (-8.0H)	--	.2		45a	
b Viscera	--	--	--	1.6	26.0	14.6	3.1	45.3	.7	8.6 (-2.7H)		30.3 (-3.6H)			--			9.6 (-6.3H)									--	--	--	--	45b	
46 Sabalo (<i>Prochilodus lineatus</i>) muscle, Argentina. (FW)	--	--	--	3.1	18.6	7.6	--	29.3	.9	14.5	0.7	43.7 (-2.6H)			--			9.9 (-6.3H)												46.3	1.3	46
Salmon (<i>Salmo salar</i>): (FWM)																																
47 Mature fish:																																
a Liver	--	--	--	2.7	10.9	1.6	--	15.2	.7	12.3 (-2.0H)		32.8 (-2.9H)			--			25.8 (-5.7H)							13.2 (-7.8H)						--	47a
b Mesentery	--	--	--	3.6	14.4	2.3	--	20.3	.1	7.1 (-2.4H)		25.3 (-2.9H)			--			28.4 (-4.6H)														

NOTE: FW indicates a fresh water animal; FWM indicates an animal which is both marine and fresh water; undesignated is the marine animal. Values based on single lots unless otherwise stated.

1/ Degree of unsaturation unknown.

17/ Includes 26.0 percent C₂₂, and 1.1 percent C₂₄.

18/ Trace of lauroleic acid present.

19/ Samples of each sex in order of increasing emaciation resulting from spawning.

20/ Salmon eggs hatch in fresh water and young fish (parr) live as fresh water animals for 1 to 4 years.

21/ Includes 18.8 percent C₂₂ and 4.2 percent C₂₄.

22/ Saury is an important fish food in Japan, taking place of sardine.

23/ Each batch contained about 40 sauries, selected at random. Samples "a" through "f" were analyzed spectrophotometrically, sample "g" by methylester fractionation.

24/ C₁₈ and higher saturated acids.

25/ Percent of sterol. Sterol consisted of sitosterol and monohydric alcohols.

Table 2.--Aquatic animals and their products: Composition and characteristics of fats based on technical literature for period 1920 - 1955 -- Continued

Item number and description		Saturated fatty acids (weight percentage of total fatty acids)								Unsaturated fatty acids (weight percentage of total fatty acids)																		Iodine value	Unsat- ponifi able	Item number																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
		C ₅	C ₁₀	C ₁₂	C ₁₄	C ₁₆	C ₁₈	C ₂₀	Total	C ₁₄ (-2H)	C ₁₆ (-2H)	C ₁₆ (-6H)	C ₁₈ (-2H)	C ₁₈ (-4H)	C ₁₈ (-6H)	C ₁₈ (-8H)	C ₂₀ (-2H)	C ₂₀ (-4H)	C ₂₀ (-6H)	C ₂₀ (-8H)	C ₂₀ (-10H)	C ₂₂ (-2H)	C ₂₂ (-4H)	C ₂₂ (-6H)	C ₂₂ (-8H)	C ₂₂ (-10H)	C ₂₂ (-12H)				C ₂₄ (-2H)	C ₂₄ (-10H)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)				(27)	(28)	(29)	(30)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
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NOTE: FW indicates a fresh water animal; FWM indicates an animal which is both marine and fresh water; undesignated is the marine animal.
Values based on single lots unless otherwise stated.

1/ Degree of unsaturation unknown.

6/ Zoomaric.

7/ Gadoleic.

26/ Highly unsaturated acids. Includes C₁₈ tri- and tetra-, and C₂₀ pentaenoic.

27/ Mainly eicosenoic and docosenoic.

28/ Steroid 68 percent (mainly cholesterol) and provitamin D 4.6 percent.

29/ Includes 3.2 percent C₂₂ and 0.4 percent C₂₄.

30/ Includes 20 percent C₂₂ and 6 percent C₂₄.

31/ Includes 0.2 percent C₂₂.

32/ Includes 0.1 percent C₂₂.

33/ Includes 1.6 percent C₂₂.

Table 2.--Aquatic animals and their products: Composition and characteristics of fats based on technical literature for period 1920 - 1955 -- Continued

Item number and description		Saturated fatty acids (weight percentage of total fatty acids)								Unsaturated fatty acids (weight percentage of total fatty acids)																		Iodine value	Unsa- ponifi- able	Item number		
		C ₅	C ₁₀	C ₁₂	C ₁₄	C ₁₆	C ₁₈	C ₂₀	Total	C ₁₄ (-2H)	C ₁₆ (-2H)	C ₁₆ (-6H)	C ₁₈ (-2H)	C ₁₈ (-4H)	C ₁₈ (-6H)	C ₁₈ (-8H)	C ₂₀ (-2H)	C ₂₀ (-4H)	C ₂₀ (-6H)	C ₂₀ (-8H)	C ₂₀ (-10H)	C ₂₂ (-2H)	C ₂₂ (-4H)	C ₂₂ (-6H)	C ₂₂ (-8H)	C ₂₂ (-10H)	C ₂₂ (-12H)				C ₂₄ (-2H)	C ₂₄ (-10H)
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)				(27)	(28)	(29)	(30)
																															pct.	
73	Shark liver--Continued Soupfin (<i>Galeorhinus galeus</i>), South Africa:																															73
a	Fat females	--	--	--	3.3	17.7	1.6	0.7	23.3	0.5	9.4 (-3.1H)			25.3 (-3.7H)			--	24.4 (-8.0H)			15.9 (-10.3H)						1.2 (-10.0H)		--	2.5	a	
b	Thin females	--	--	--	3.5	17.3	3.6	1.2	5/26.0	1.0	8.6 (-2.0H)			23.1 (-2.6H)			--	17.2 (-6.5H)			17.5 (-9.8H)						34/ 6.4 (-10.0H)		--	7.1	b	
c	Foetuses	--	--	--	3.3	18.5	2.2	.5	32/24.6	.7	6.3 (-2.0H)			17.5 (-3.4H)			--	20.9 (-8.3H)			25.5 (-10.6H)						4.6 (-10.0H)		--	8.7	c	
74	Spiny (<i>Echinorhinus spinosus</i>), South Africa:	--	--	--	3.9	20.4	6.9	.3	31/31.7	1.6	11.9 (-2.0H)			25.6 (-3.0H)			--	15.4 (-6.6H)			13.9 (-8.1H)								--	--	74	
75	Tiger (<i>Galeocerdo cuveri</i>), Indian: Arabian Sea	--	--	0.4	3.3	24.9	11.1	1.2	40.9	35/1.1	11.2 (-2.6H)			19.6 (-3.9H)			--	22.3 (-7.0H)			4.8 (-10.6H)								--	--	75	
b	Bay of Bengal	--	--	--	1.5	23.6	14.5	.3	39.9	.2	10.9 (-2.0H)			23.3 (-2.6H)			--	11.6 (-5.8H)			12.2 (-8.4H)			1.9 (-11.0H)					--	--	b	
76	Waghbeer (<i>Galeocerdo tigrinus</i>), India:	--	--	--	.9	21.5	6.3	6.4	35.1	Trace	7.1 (-2.0H)			10.9	0.4	2.4	--	19.3	--	--	1.7	--	22.7	--	--	--	.3	--	Trace	70.8	11.2	76
77	White (<i>Carcharodon carcharias</i>), France:	--	--	--	--	12.6	--	--	12.6	--	28.2 (-2.0H)			36.6	10.5	--	--	--	--	--	3.1	3.1	--	--	--	6.3	--	--	--	--	77	
78	Sprat (<i>Clupea sprattus</i>) head and body tissues, North Sea:	--	--	--	6.0	18.7	.9	--	25.6	.1	1/16.2			29.0 (-2.9H)			--	18.2 (-5.6H)			10.9 (-7.1H)								--	150.7	.9	78
79	Sting-ray or fan fish (<i>Dasyatis akiei</i>) liver, China:	--	--	--	--	18.6	44.9	--	63.5	--				8.3	18.9	2.5	--				4.8 (-10H)								--	93.0	8.0	79
80	Stockfish (<i>Merluccius capensis</i>) liver, South Africa:	--	--	--	1.4	17.9	1.9	11/.5	21.7	.4	11.8 (-2.0H)			32.6 (-3.3H)			--	19.3 (-7.1H)			12.0 (-9.0H)			2.3 (-7.0H)					--	--	80	
81	Sturgeon (<i>Acipenser sturio</i>), North Sea: (FW)																														81	
a	Liver	--	--	--	3.0	19.2	--	--	22.2	--	1/19.5			39.6 (-2.7H)			--	11.8 (-7.1H)			6.9 (-10.0H)								125.0	--	a	
b	Pancreas	--	--	--	4.5	16.4	1.1	--	22.0	--																						

NOTE: FW indicates a fresh water animal; FWM indicates an animal which is both marine and fresh water; undesignated is the marine animal.
Values based on single lots unless otherwise stated.

- 1/ Degree of unsaturation unknown.
5/ Includes 0.4 percent C₂₂.
11/ Includes C₂₀ - C₂₂ saturated acids.
31/ Includes 0.2 percent C₂₂.
32/ Includes 0.1 percent C₂₂.
34/ Also 0.2 percent C₂₆(-10H).
35/ Also 0.1 percent C₁₂(-2H).

- 36/ Also 4.0 percent C₁₂(-2H).
37/ Includes C₂₀ and C₂₂ unsaturated acids.
38/ Includes 5.2 percent C₂₂ and C₂₄ 0.5 percent.
39/ Also 0.8 percent C₁₂(-2H).
40/ Also 13.8 percent C₁₂(-2H).
41/ Also 0.2 percent C₁₂(-2H).
42/ Also 3.3 percent undetermined.

Table 3.--Plants and plant products: Composition and characteristics of fats based on technical literature for period 1920 - 1955

Item number and description		Saturated fatty acids (weight percentage of total fatty acids)										Unsaturated fatty acids (weight percentage of total fatty acids)												Iodine value	Unsaponifiable	Item number	
		C ₆	C ₈	C ₁₀	C ₁₂	C ₁₄	C ₁₆	C ₁₈	C ₂₀	C ₂₂	C ₂₄	Total	C ₁₂ (-2H)	C ₁₄ (-2H)	C ₁₆ (-2H)	C ₁₈ (-2H)	C ₁₈ (-4H)	C ₁₈ (-6H)	C ₂₀ (-2H)	C ₂₀ (-4H)	C ₂₀ (-8H)	C ₂₂ (-2H)	C ₂₂ (-4H)				C ₂₄
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)				(23)	(24)	(25)
Fruits including seeds and other parts.																									Percent		
1	Annona species, seed:																										
a	Custardapple, Bullockheart (A. reticulata), India.																								87.6	—	1
b	Soursop (A. muricata), Puerto Rico ...																								87.8	1.0	b
c	Sugarapple (A. squamosa), India.....																								83.3	—	c
2	Apricot kernel:																										
a	Ansu (Prunus armeniaca ansu),Mongolia																								108.4	1.0	2
b	P. armeniaca, California, U.S.A.																								—	—	a
c	P. armeniaca, Germany																								101.6	.4	c
	Avocado pulp:																										
3	Persea americana, 2 varieties:																										
a	Fuerte, California, U. S. A.....																								1/ 89.2	19.2	3
b	Trapp, Florida, U.S.A.....																								2/ 75.5	9.2	a
4	Persea indica, varieties unknown, California and Florida, U.S.A.																								94.4	1.6	b
5	Species unknown, 3 varieties,Argentina:																										
a	Amarilla de Lules.....																								87.5	22.7	5
b	Fuerte 40																								87.8	6.5	a
c	Lula																								77.9	13.5	b
6	Baelfruit (Aegle marmelos) kernel,Ceylon.																								108.0	1.6	c
7	Ber (Zizyphus mauritiana) seed, India.																								87.4	.8	6
8	Buckthorn (Rhamnus japonica) fruit coat, Japan.																								—	—	7
	Cantaloup. See melon.																										8
9	Capeberry (Myrica cordifolia) wax, fruit coat, S. Africa.																								.6	.1	
10	Cherry:																										
a	Bing (Prunus avium, L.) cuticle, U.S.A.																								1/ 72.0	—	10
b	Sour (P. cerasus), kernel, U.S.A.....																								118.0	.7	a
11	Citrus species:																										
a	Grapefruit (C. paradisi), seed:																										11
b	Foster variety, West India																								—	.5	a
c	Marsh variety, West India																								—	.3	b
	Shaddock (grapefruit) air-dried, India.																								92.7	.5	c
d	Unknown variety, U.S.A.																								106.3	.7	d
12	Lime (C. aurantifolia) seed, West India																								—	.6	
13	Orange:																										
a	Sweet (C. aurantium dulce) seed, West India.																								—	.7	13
b	Valencia (C. sinensis), seed, S. California, U.S.A.																								101.7	1.0	a
c	Valencia (C. sinensis),juice (canned), Florida, U.S.A.																								107.0	—	b
14	Tangerine (C. reticulata). air-dried seed, U.S.A.																								107.3	.5	c
15	Cranberry, highbush (Viburnum trilobum), seed, U.S.A.																								120.4	1.7	14
16	Fig, common (Ficus carica) caprifid seed, U.S.A.																								169.4	1.1	15
17	Granadilla, purple (Passiflora edulis), passion fruit seed, U.S.A.																								140.4	.6	16
18	Grape seed: California (Vitis vinifera) raisin.																								129.1	.5	17
19	Commercial (Vitis vinifera) oil, France.																								127.0	5.8	18
20	Concord (Vitis labrusca X. vinifera), U.S.A.																								137.0	1.6	19
21	Muscadine (Vitis rotundifolia), 2 varieties, U.S.A.:																										
a	Hunt																								132.0	1.0	20
b	Scuppernong																								129.0	.9	a
22	Vitis vinifera, Switzerland																								124.3	.7	b
23	Vitis vinifera (5 varieties),Turkey:																										
a	Selected value																								131.7	.4	21
b	Maximum																								—	—	a
c	Minimum																								—	—	b
d	Samples																								(1)	(1)	c

NOTE: Values based on single lots unless otherwise indicated.

- 1/ Based on total fatty acids instead of total fat.
2/ Also C₂₀(-10H), 0.2 percent.
3/ Determined by difference.

- 4/ Conjugated tetraene.
5/ In addition 1.4 percent unidentified fatty acid and 6.2 percent not determined reported.
6/ In addition 2.9 percent unidentified hydroxy-acid reported.
7/ In addition 10 percent unidentified alcoholic-acid reported.

Table 3.--Plants and plant products: Composition and characteristics of fats based on technical literature for period 1920 - 1955 -- continued

Item number and description		Saturated fatty acids (weight percentage of total fatty acids)										Unsaturated fatty acids (weight percentage of total fatty acids)												Iodine value	Unsaponifiable	Item number	
		C ₆	C ₈	C ₁₀	C ₁₂	C ₁₄	C ₁₆	C ₁₈	C ₂₀	C ₂₂	C ₂₄	Total	C ₁₂ (-2H)	C ₁₄ (-2H)	C ₁₆ (-2H)	C ₁₈ (-2H)	C ₁₈ (-4H)	C ₁₈ (-6H)	C ₂₀ (-2H)	C ₂₀ (-4H)	C ₂₀ (-6H)	C ₂₂ (-2H)	C ₂₂ (-4H)				C ₂₄
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)				(23)	(24)	(25)
Fruits including seeds and other parts -- continued																										Percent	
24	Lalob fruit (<i>Balanites aegyptiaca</i>), kernel, Africa and Arabia.	--	--	--	--	--	--	--	--	--	24.5	--	--	--	30.8	43.4	trace	--	--	--	--	--	--	--	102.2	2.0	24
25	Laurel, bay (<i>Laurus nobilis</i>):																									25	
a	Bay fat, Germany	--	--	--	30.2	--	11.1	--	--	--	41.3	--	--	--	39.8	18.9	--	--	--	--	--	--	--	--	77.3	3.0	a
b	Flesh, Turkey	--	--	--	--	--	--	--	--	--	20.7	--	--	--	57.8	21.5	--	--	--	--	--	--	--	--	87.0	.8	b
c	Fruitcoat, Mediterranean Coasts	--	--	--	2.7	--	20.3	--	--	--	23.0	--	--	--	63.0	14.0	--	--	--	--	--	--	--	--	113.1	9.8	c
d	Kernel, Mediterranean Coasts	--	--	--	43.1	--	6.2	--	--	--	49.3	--	--	--	32.3	18.4	--	--	--	--	--	--	--	--	84.0	22.9	d
e	Kernel, Turkey	--	--	--	--	--	--	--	--	--	50.8	--	--	--	8.9	40.2	--	--	--	--	--	--	--	--	77.3	1.9	e
f	Kernel and pericarp, expressed oil, S. Europe.	--	--	--	35.0	--	9.7	--	--	--	44.7	--	--	--	36.6	18.7	--	--	--	--	--	--	--	--	86.4	6.2	f
26	Mango, common (<i>Mangifera indica</i>) kernel, Jamaica.	--	--	--	--	--	4.4	42.5	3.0	--	49.9	--	--	--	44.7	5.4	--	--	--	--	--	--	--	--	48.0	2.3	26
27	Marmalade tree (<i>Achras zapota</i>) seed, India.	--	--	--	1.6	6.2	12.6	12.0	--	--	32.4	--	--	--	66.2	1.4	--	--	--	--	--	--	--	--	59.8	1.8	27
28	<i>Martynia diandra</i> , dry fruit, India.....	--	--	--	--	--	10.5	8.5	--	--	19.0	--	--	--	74.5	6.2	--	--	--	--	--	--	--	--	75.6	.9	28
29	Melon (<i>Cucumis melo</i>) seeds:																									29	
a	Cantaloup, U.S.A.	--	--	--	--	trace	10.2	4.5	--	--	14.7	--	--	--	27.2	56.6	--	--	--	--	--	--	--	--	125.9	1.1	a
b	Sarda, India	--	--	--	--	2.0	3.2	5.4	.9	--	11.5	--	--	--	32.7	55.2	--	--	--	--	--	--	--	--	125.5	.6	b
c	Sweet, India	1.0	2.0	--	--	1.2	7.3	.2	--	--	11.7	--	--	--	43.1	45.2	--	--	--	--	--	--	--	--	117.1	.8	c
30	Olive (<i>Olea europaea</i>), common, cultivated: Endocarp, Spain	--	--	--	--	2.2	8.1	4.7	--	--	15.0	--	--	--	75.0	10.0	--	--	--	--	--	--	--	--	90.2	--	30
31	Fruit coat:																									31	
a	California (commercial oil)	--	--	--	--	trace	6.9	2.3	.1	--	9.3	--	--	--	84.4	4.6	--	--	--	--	--	--	--	--	85.1	1.0	a
b	Italian	--	--	--	--	trace	9.2	2.0	.2	--	11.4	--	--	--	83.1	3.9	--	--	--	--	--	--	--	--	84.4	1.1	b
c	Palestine	--	--	--	--	.5	10.0	3.3	.1	--	13.9	--	--	--	77.5	8.6	--	--	--	--	--	--	--	--	84.0	1.1	c
d	Spain	--	--	--	--	.2	9.4	1.4	.2	--	11.2	--	--	--	80.5	6.9	--	--	--	--	--	--	--	--	83.7	.8	d
e	Tunisia	--	--	--	--	.1	14.4	2.4	.3	--	17.2	--	--	--	69.1	12.0	--	--	--	--	--	--	--	--	86.0	.8	e
32	Seed, U.S.A.	--	--	--	--	--	--	--	--	--	16.0	--	--	--	70.1	13.9	--	--	--	--	--	--	--	--	88.3	--	32
33	Sulfured olive oil, residue, France	--	--	--	--	.7	13.9	1.9	.9	--	17.4	--	--	1.6	64.0	15.1	--	--	--	--	--	--	--	8/ 2.1	2.2	33	
34	Whole fruit including kernel, Argentina (from 9 provinces):								</																		

NOTE: Values based on single lots unless otherwise indicated.

8/ Includes all unsaturated fatty acids above C₂₀.

Table 3.--Plants and plant products: Composition and characteristics of fats based on technical literature for period 1920 - 1955 -- continued

Item number and description		Saturated fatty acids (weight percentage of total fatty acids)										Unsaturated fatty acids (weight percentage of total fatty acids)												Iodine value	Unsaponifiable	Item number	
		C ₆	C ₈	C ₁₀	C ₁₂	C ₁₄	C ₁₆	C ₁₈	C ₂₀	C ₂₂	C ₂₄	Total	C ₁₂ (-2H)	C ₁₄ (-2H)	C ₁₆ (-2H)	C ₁₈ (-2H)	C ₁₈ (-4H)	C ₁₈ (-6H)	C ₂₀ (-2H)	C ₂₀ (-4H)	C ₂₀ (-8H)	C ₂₂ (-2H)	C ₂₂ (-4H)				C ₂₄
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)				(23)	(24)	(25)
Fruits including seeds and other parts -- continued																										Percent	
Palm genera -- continued																											
Coconut (<i>Cocos nucifera</i>) -- continued																											
45	Coconut oil, hydrogenated, U.S.A.	--	--	--	--	--	--	--	--	--	99.3	--	--	--	0.7	--	--	--	--	--	--	--	--	--	0.6	--	45
46	Coconut parings, Africa	--	2.0	2.0	28.0	22.0	12.0	1.0	--	--	67.0	--	--	--	23.0	10.0	--	--	--	--	--	--	--	--	36.9	--	46
47	Cohune nut (<i>Orbignya cohune</i>) kernel, Honduras.	Trace	7.5	6.5	46.5	16.0	9.5	3.0	--	--	89.0	--	--	--	10.0	1.0	--	--	--	--	--	--	--	--	--	--	47
48	Coyol mexicana (<i>Acrocomia mexicana</i>) seed.	--	--	6.2	44.0	10.5	11.9	1.9	--	--	74.5	--	--	--	20.2	5.3	--	--	--	--	--	--	--	--	15.6	0.9	48
49	Cuban palmiche (<i>Roystonea regia</i>) nut, Central America.	--	--	5.0	32.0	16.0	7.5	1.0	--	--	61.5	--	--	--	28.5	9.5	--	--	--	--	--	--	--	--	39.8	.5	49
50	Murumuru (<i>Astrocaryum murumuru</i>) seed, Brazil.	--	1.1	1.6	42.5	36.9	4.6	2.1	--	--	88.8	--	--	--	10.8	.4	--	--	--	--	--	--	--	--	11.0	.3	50
Oilpalm (<i>Elaeis guineensis</i>):																											
Fruit coat:																											
51	Commercial oil, Africa (2 studies):																									51	
a	Selected value	--	--	--	--	1.4	41.4	4.7	--	--	47.5	--	--	1.3	42.3	8.5	0.4	--	--	--	--	--	--	--	--	--	a
b	Maximum	--	--	--	--	2.4	45.1	6.3	--	--	--	--	--	1.8	50.3	10.3	--	--	--	--	--	--	--	--	--	--	b
c	Minimum	--	--	--	--	.6	37.6	3.7	--	--	--	--	--	.6	38.0	6.4	--	--	--	--	--	--	--	--	--	--	c
d	Samples	--	--	--	--	(3)	(3)	(3)	--	--	--	--	--	(3)	(3)	(3)	(1)	--	--	--	--	--	--	--	--	--	d
52	Commercial oil, crude (high free acidity):																									52	
a	Benin, Nigeria	--	--	--	--	4.5	37.5	4.2	--	--	46.2	--	--	--	47.3	6.5	--	--	--	--	--	--	--	--	50.6	.8	a
b	Bonny Old Calabar, Nigeria	--	--	--	--	4.1	40.1	4.4	--	--	48.6	--	--	--	41.5	9.9	--	--	--	--	--	--	--	--	55.5	.3	b
c	Drewin, Gold Coast	--	--	--	--	2.2	35.3	5.2	--	--	42.7	--	--	--	52.3	5.0	--	--	--	--	--	--	--	--	46.3	1.6	c
d	Niger	--	--	--	--	5.9	39.3	2.2	--	--	47.4	--	--	--	42.7	9.9	--	--	--	--	--	--	--	--	51.0	.9	d
53	Commercial oil (low free acidity):																									53	
a	Cameroons (crude)	--	--	--	--	1.0	38.9	5.9	--	--	45.8	--	--	--	43.9	10.3	--	--	--	--	--	--	--	--	54.6	.3	a
b	Drewin, Gold Coast (crude)	--	--	--																							

NOTE: Values based on single lots unless otherwise indicated.

9/ Also 20.7 percent isolinoleic acid and 0.6 percent hydroxy acid.

Table 3.—Plants and plant products: Composition and characteristics of fats based on technical literature for period 1920 - 1955 -- continued

Item number and description		Saturated fatty acids (weight percentage of total fatty acids)											Unsaturated fatty acids (weight percentage of total fatty acids)											Iodine value	Unsaponifiable	Item number	
		C ₆	C ₈	C ₁₀	C ₁₂	C ₁₄	C ₁₆	C ₁₈	C ₂₀	C ₂₂	C ₂₄	Total	C ₁₂ (-2H)	C ₁₄ (-2H)	C ₁₆ (-2H)	C ₁₈ (-2H)	C ₁₈ (-4H)	C ₁₈ (-6H)	C ₂₀ (-2H)	C ₂₀ (-4H)	C ₂₀ (-8H)	C ₂₂ (-2H)	C ₂₂ (-4H)				C ₂₄
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)				(23)	(24)	(25)
Fruits including seeds and other parts -- continued																										Percent	
69	Tamarind (<i>Tamarindus indica</i>):																									69	
a	"Fixed" oil, India	--	--	--	--	--	6.2	2.6	4.4	6.9	--	20.1	--	--	--	38.0	41.3	--	--	--	--	--	--	--	118.2	2.6	a
b	Seed, Sudan	--	--	--	--	--	19.0		11.8			30.8	--	--	--	27.3	41.9	--	--	--	--	--	--	94.5	3.8	b	
70	<i>Vangueria spinosa</i> (N.O. Rubiaceae) seed, India.	--	--	--	--	--	27.8		--	--	--	27.8	--	--	--	32.5	39.7	--	--	--	--	--	--	--	88.6	1.0	70
71	Watermelon (<i>Citrullus vulgaris</i>) seed: India (2 studies):																									71	
a	Selected value	--	0.2	1.1	0.8	0.2	7.6	6.1	--	--	--	16.0	--	--	--	35.3	48.7	--	--	--	--	--	--	--	120.2	.6	a
b	Maximum	--	--	--	--	--	--	--	--	--	--	22.7	--	--	--	35.3	58.6	--	--	--	--	--	--	--	124.2	.8	b
c	Minimum	--	--	--	--	--	--	--	--	--	--	16.0	--	--	--	18.7	48.7	--	--	--	--	--	--	--	116.2	.3	c
d	Samples .....number...	--	(1)	(1)	(1)	(1)	(1)	(1)	--	--	--	(2)	--	--	--	(2)	(2)	--	--	--	--	--	--	--	(2)	(2)	d
72	Bulgaria	--	--	--	--	--	11.3	10.2	--	--	--	21.5	--	--	--	14.0	64.4	--	--	--	--	--	--	--	123.6	.6	72
73	Florida (var. Cuban Queen)	--	--	--	--	--	9.2	5.9	.7	--	--	15.8	--	--	--	13.6	71.5	--	--	--	--	--	--	--	133.8	1.2	73
74	Texas (Green Citron).....	--	--	--	--	.9	10.5	6.4	--	--	--	17.8	--	0.4	0.8	19.1	61.9	--	--	--	--	--	--	--	127.8	.9	74
75	Waxtree (<i>Rhus succedanea</i>) seed	--	--	--	--	--	25.4	--	--	--	--	25.4	--	--	--	46.8	27.8	--	--	--	--	--	--	--	--	--	75
76	Ximendia species. See Other Seeds.						</																				

NOTE: Values based on single lots unless otherwise indicated.

10/ Includes higher fatty acids, behenic and lignoceric.

11/ 33.2 percent glycerides.

12/ 3.7 percent phospholipids.

13/ Includes 6 percent C₁₆(-4H), 12 percent C₁₆(-6H), and 3 percent C₁₆(-8H).14/ Also 1 percent C₁₈(-4H), and above C₁₈, less than 4 percent.15/ C₁₆(-4.7H).16/ C₁₄(-2.0H).

17/ Degree of unsaturation unknown.

18/ C₂₀(-6.0H).

19/ In addition 1.5 percent unidentified fatty acid reported.

20/ Erucic acid.

21/ According to the author, the saturated acids from stearic to lignoceric, C₁₈ through C₂₄, could not be determined with individual accuracy, hence they were grouped together.

Item number and description	Saturated fatty acids (weight percentage of total fatty acids)											Unsaturated fatty acids (weight percentage of total fatty acids)												Iodine value	Unsaponifiable	Item number		
	C ₆	C ₈	C ₁₀	C ₁₂	C ₁₄	C ₁₆	C ₁₈	C ₂₀	C ₂₂	C ₂₄	Total	C ₁₂ (-2H)	C ₁₄ (-2H)	C ₁₆ (-2H)	C ₁₈ (-2H)	C ₁₈ (-4H)	C ₁₈ (-6H)	C ₂₀ (-2H)	C ₂₀ (-4H)	C ₂₀ (-8H)	C ₂₂ (-2H)	C ₂₂ (-4H)	C ₂₄					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)			
Vegetables including seed, spice, and alkaloidal products.-- continued																												
Brassica species -- continued																												
86	Rape (<i>B. campestris</i>) seed -- continued																										86	
c	Danzig (Polish)																										c	
d	East Indies																										d	
e	England																										e	
f	Germany																										f	
g	India (Guzerat)																										g	
h	India (Jamba)																										h	
i	India (Toria)																										i	
87	Rape (<i>B. campestris</i>) seed, hydrogenated oil, India.																										87	
88	Ravison (<i>B. campestris</i>) seed: Black Sea																										88	
b	Danubian																										b	
89	Buckwheat (<i>Fagopyrum esculentum</i>) leaf-meal, U.S.A.																										89	
90	Cacao (<i>Theobroma cacao</i>) butter (5 studies):																										90	
a	Selected values																										a	
b	Maximum																										b	
c	Minimum																										c	
d	Samples																									d		
91	Cajanus cajan(Pigeonpea) seed, Indian pulses(high in protein,low in fat).																									91		
92	Caraway (<i>Carum carvi</i>) seed, dried.....																										92	
93	Cardamon (<i>Elettaria cardamomum</i>) seed 24/																										93	
94	Carrot, garden (<i>Daucus carota</i>) seed, dried.																										94	
95	Cassia species:																										95	
a	C. fistula seed, Africa 26/.....																									a		
b	C. fistula seed, India																										b	
c	C. tora seed, India																										c	
96	Celery (<i>Apium graveolens</i>):																											96
a	Seed, Argentina																										a	
b	Seed, dried, England																										b	
97	Chervil (<i>Anthriscus cerefolium</i>) seed, dried, England.																										97	
98	Chia (<i>Salvia hispanica</i>) seed:																											98
a	Holland																										a	
b	Mexico																											b
99	Chick-pea (<i>Cicer arietinum</i>):																											99
a	Chana (Ordinary), India																										a	
b																												

NOTE: Values based on single lots unless otherwise indicated.

1/ Based on total fatty acids instead of total fat.

20/ Erucic acid.

21/ According to the author, the saturated acids from stearic to lignoceric, C₁₈ through C₂₄, could not be determined with individual accuracy; hence they were grouped together.

22/ Also 3.5 percent pre-formed linoleic acid.

23/ Includes 26 percent petroselinic acid, an isomer of oleic acid.

24/ Indian plant seeds used for medicine and to flavor cakes, puddings, et cetera.

25/ Includes 58 percent petroselinic acid, an isomer of oleic acid.

26/ Fatty acids reported add to more than 104 percent.

27/ Includes 43.0 percent petroselinic acid, an isomer of oleic acid.

28/ Includes 51.0 percent petroselinic acid, an isomer of oleic acid.

29/ Includes 41.0 percent petroselinic acid, an isomer of oleic acid.

30/ Grounds recovered from a freshly roasted blend of Brazilian, Colombian, and Venezuelan coffee.

31/ Includes C₂₀ and higher unsaturated fatty acids.

32/ Includes 53.0 percent petroselinic acid, an isomer of oleic acid.

33/ Wigs, 1 hour.

Item number and description		Saturated fatty acids (weight percentage of total fatty acids)										Unsaturated fatty acids (weight percentage of total fatty acids)												Iodine value	Unsaponifiable	Item number	
		C ₆	C ₈	C ₁₀	C ₁₂	C ₁₄	C ₁₆	C ₁₈	C ₂₀	C ₂₂	C ₂₄	Total	C ₁₂ (-2H)	C ₁₄ (-2H)	C ₁₆ (-2H)	C ₁₈ (-2H)	C ₁₈ (-4H)	C ₁₈ (-6H)	C ₂₀ (-2H)	C ₂₀ (-4H)	C ₂₀ (-6H)	C ₂₂ (-2H)	C ₂₂ (-4H)				C ₂₄
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)				(23)	(24)	(25)
Vegetables including seed, spice, and alkaloidal products --continued																										Percent	
104	<u>Cucurbita</u> species -- continued																										
c	Pumpkin (<u>C. pepo</u>) seed, India.....	--	--	--	--	--	9.5	8.0	--	--	17.5	--	--	--	39.0	43.5	--	--	--	--	--	--	--	--	119.0	1.3	104c
d	Pumpkin (<u>C. pepo</u>) seed (extracted), U.S.A. ^{34/}	--	--	--	--	--	6.5	5.4	--	--	11.9	--	--	--	37.6	46.4	--	--	--	--	--	--	--	--	116.8	1.6	d
e	Squash, Hubbard (<u>C. maxima</u>) seed, India.	--	--	--	--	--	16.9	14.0	--	--	30.9	--	--	--	24.7	44.4	--	--	--	--	--	--	--	--	98.3	.9	e
f	Squash, Hubbard (<u>C. maxima</u>) seed,U.S.A.	--	--	--	--	--	13.0	6.0	trace	--	19.0	--	--	--	37.0	44.0	--	--	--	--	--	--	--	--	121.0	1.1	f
105	Fennel (<u>Foeniculum vulgare</u>) seed, England.	--	--	--	--	--	4.0	--	--	--	4.0	--	--	--	35/82.0	41.0	--	--	--	--	--	--	--	--	87.9	6.7	105
106	Fennelflower, garden (<u>Nigella sativa</u>) seed, dry, India.	--	--	--	--	0.3	7.0	2.8	--	--	10.1	--	--	--	49.7	40.2	--	--	--	--	--	--	--	--	--	--	106
107	Fenugreek (<u>Trigonella foenum-graecum</u>) seed, Egypt.	--	--	--	--	--	9.7	4.9	2.0	0.9	17.5	--	--	--	35.1	33.7	13.8	--	--	--	--	--	--	--	115.6	4.0	107
108	Fungi imperfecti (<u>Penicillium lilacinum</u>). ^{36/}	--	--	--	--	.1	32.3	9.4	1.4	--	43.2	--	--	3.4	38.6	13.4	--	17/ 1.4			--	--	--	--	63.7	2.9	108
109	Gokhru (<u>Xanthium strumarium</u>) seed, Northern India.	--	--	--	--	--	--	--	--	--	11.1	--	--	--	36.7	52.2	--	--	--	--	--	--	--	--	119.9	.7	109
Gourd:																											
110	Calabash (<u>Lagenaria leucantha</u>) seed: Bottle gourd, India	--	--	--	--	--	17.8		--	--	17.8	--	--	--	18.2	64.0	--	--	--	--	--	--	--	--	126.5	.7	110a
b	Seringe (bitter variety), India ..	--	--	--	--	--	19.3	31.0	.8	--	51.1	--	--	--	16.2	32.7	--	--	--	--	--	--	--	--	105.0	2.0	b
111	Towelgourd, vegetablesponge (<u>Luffa cylindrica</u>) seed (decorticated), India.	--	--	--	--	--	9.6	7.4	--	--	17.0	--	--	--	40.5	42.6	--	--	--	--	--	--	--	--	106.4	1.2	111
112	Waxgourd (<u>Benincasa hispida</u>): Seed (decorticated), India	--	--	--	--	--	8.5	4.0	--	--	12.5	--	--	--	19.2	60.3	--	--	--	--	--	--	--	--	135.2	1.3	112
113	Seed (dried), India (2 studies):																										
a	Selected value	--	--	--	--	--	10.6	5.8	.3	--	16.7	--	--	--	20.0	62.3	1.0	--	--	--	--	--	--	--	125.9	1.1	113a
b	Maximum	--	--	--	--	--	--	--	--	--	16.7	--	--	--	21.9	62.4	--	--	--	--	--	--	--	--	126.8	1.5	b
c	Minimum	--	--	--	--	--	--	--	--	--	15.8	--	--	--	20.0	62.3	--	--	--	--	--	--	--	--	125.0	.8	c
d	Samples .....number..	--	--	--	--	--	(1)	(1)	(1)	--	(2)	--	--	--	(2)	(2)	(1)	--	--	--	--	--	--	--	(2)	(2)	d
See also <u>Cucurbita</u> species.																											
114	Grass leaves:																										
a	Pasture grass, dry mixed	--	--	--	--	--	--	--	--	--	.7	--	--	--	32.4	14.5	52.4	--	--	--	--	--	--	--	1/182.6	--	114a
b	Rye grass, leaf (glycerides)	--	--	--	0.4	1.4	10.6	1.5	37/ .4	--	41.3	0.2	0.5	4.1	4.6	11.6	62.8	17/ 1.9	--	--	--	--	--	--	--	--	b
115	Horseradish tree, Ben (<u>Moringa oleifera</u>) seed:																										
a	Haiti	--	--	--	--	1.6	3.8	11.3	--	6.6	23.4	--	--	--	72.1	4.0	--	--	--	--	--	--	--	--	68.0	1.5	a
b	Trinidad	--	--	--	--	--	5.5	7.8	2.7	1.2	22.5	--	--	.9	75.8	.8	--	--	--	--	--	--	--	--	67.1	1.1	b
116	Kerguelen cabbage (<u>Pringlea antiscorbutica</u>) seed, Antarctic Islands.	--	--	--	--	--	4.5	2.6	.7	.5	8.3	--	--	3.7	14.4	20.4	28.6	11.2	38/ 0.1	--	20/ 11.5	0.1	--	149.6	1.7	116	
117	Lettuce (<u>Lactuca sativa</u>) seed, India (2 studies):																										
a	Selected value	2.2	--	--	--	--	3.1	2.7	.1	--	8.1	--	--	--	38.9	53.0	--	--	--	--	--	--	--	--	122.4	2.6	a
b	Maximum	--	--	--	--	--	4.4	4.1	.3	--	--	--	--	--	40.2	56.9	--	--	--	--	--	--	--	--	123.5	3.0	b
c	Minimum	--	--	--	--	--	1.9	1.3	.1	--	--	--	--	--	37.6	51.1	--	--	--	--	--	--	--	--	121.3	2.2	c
d	Samples .....number..	(1)	--	--	--	--	(2)	(2)	(2)	--	--	--	--	--	(2)	(2)	--	--	--	--	--	--	--	--	(2)	(2)	d
118	Lupine (<u>Lupinus</u> species) seed:																										
a	Blue (<u>L. angustifolius</u>), Germany ...	--	--	--	--	--	4.0	4.0	2.0	--	2.0	--	--	--	47.5	33.7	1.8	--	--	--	--	20/ 7.0	--	--	114.0	8.0	118a
b	White (<u>L. albus</u>), England	--	--	--	--	--	11.3		5.9		17.2	--	--	--	52.6	23.4	6.8	--	--	--	--	--	--	--	102.8	3.5	b
c	White (<u>L. albus</u>),Germany	--	--	--	--	--	2.5	2.5	2.5	--	2.5	--	--	--	60.6	19.9	2.5	--	--	--	--	20/ 6.8	--	--	107.6	3.9	c
d	Yellow, European (<u>L. luteus</u>), Germany	--	--	--	--	--	1.0	1.5	3.5	--	3.0	--	--	--	39.1	45.0	.9	--	--	--	--	20/ 6.0	--	--	115.6	4.0	d
119	Mate, yerba, paraguaytea (<u>Ilex paraguariensis</u>) seed, Buenos Aires.	--	--	--	--	.5	10.0	3.8	--	--	14.3	--	--	1.5	34.5	49.1	--	--	--	0.6	--	--	--	--	116.7	.6	119
Mustard. See <u>Brassica</u> species.																											

NOTE: Values based on single lots unless otherwise indicated.

^{1/} Based on total fatty acids instead of total fat.^{17/} Degree of unsaturation unknown.^{20/} Erucic acid.^{34/} Fatty acids reported add to less than 96 percent.^{35/} Includes 60.0 percent petroselinic acid, an isomer of oleic acid.^{36/} Fat was produced in surface culture on a chemically defined medium of sucrose and inorganic salts.^{37/} Includes higher saturated fatty acids.^{38/} Eicosadienoic acid.

Item number and description	Saturated fatty acids (weight percentage of total fatty acids)											Unsaturated fatty acids (weight percentage of total fatty acids)											Iodine value	Unsaponifiable	Item number		
	C ₆	C ₈	C ₁₀	C ₁₂	C ₁₄	C ₁₆	C ₁₈	C ₂₀	C ₂₂	C ₂₄	Total	C ₁₂ (-2H)	C ₁₄ (-2H)	C ₁₆ (-2H)	C ₁₈ (-2H)	C ₁₈ (-4H)	C ₁₈ (-6H)	C ₂₀ (-2H)	C ₂₀ (-4H)	C ₂₀ (-6H)	C ₂₂ (-2H)	C ₂₂ (-4H)	C ₂₄				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)		
Vegetables including seed, spice, and alkaloidal products -- continued																									Percent		
<i>Myristica</i> species:																											
120 Nutmeg (<i>M. malabarica</i>) kernel, East Indies. (2 studies):																										120	
a Selected value	--	--	--	--	35.6	15.1	2.8	--	--	--	53.5	--	--	--	45.7	0.8	--	--	--	--	--	--	--	--	--	a	
b Maximum	--	--	--	--	39.3	16.9	3.3	--	--	--	--	--	--	--	47.4	1.0	--	--	--	--	--	--	--	--	--	b	
c Minimum	--	--	--	--	32.0	13.3	2.4	--	--	--	--	--	--	--	44.1	.5	--	--	--	--	--	--	--	--	--	c	
d Samples .....number..	--	--	--	--	(2)	(2)	(2)	--	--	--	--	--	--	--	(2)	(2)	--	--	--	--	--	--	--	--	--	d	
121 Nutmeg (<i>M. officinalis</i>) butter, East Indies.	--	--	--	1.5	76.6	10.1	--	--	--	--	88.2	--	--	--	10.5	1.3	--	--	--	--	--	--	--	--	--	121	
122 Nasturtium, common (<i>Tropaeolum majus</i>) seed:																										122	
a Canada	--	--	--	--	--	.5	.5	--	--	--	2	--	--	--	7	2	--	20	--	--	20/69	--	--	74.5	3.8	a	
b England	--	--	--	--	--	.2	--	--	.8	--	1.0	--	--	--	16.0	1.2	--	--	--	--	20/81.8	--	--	--	--	b	
123 <i>Nephelium</i> species:																										123	
a Pulassan (<i>N. mutabile</i>) seed, Malaya ..	--	--	--	--	--	3.0	31.0	22.3	--	--	56.3	--	--	--	43.7	--	--	trace	--	--	--	--	--	--	36.6	.5	a
b Rambutan (<i>N. lappaceum</i>) seed, Malaya ..	--	--	--	--	--	2.0	13.8	34.7	--	--	50.5	--	--	--	45.3	--	--	4.2	--	--	--	--	--	--	42.3	.5	b
Nutmeg. See <i>Myristica</i> species.																											
124 Okra (<i>Hibiscus esculentus</i>) seed: Sudan	--	--	--	--	--	23.3	7.4	--	--	--	31.2	--	--	--	27.1	41.7	--	--	--	--	--	--	--	--	99.4	--	124
125 United States of America (2 studies):																										125	
a Selected value	--	--	--	--	3.8	30.1	1.6	2.0	--	--	37.5	--	--	--	42.7	19.8	--	--	--	--	--	--	--	--	92.8	.7	a
b Maximum	--	--	--	--	33.1	2.8	7.9	--	--	--	--	--	--	--	43.7	26.6	--	--	--	--	--	--	--	--	95.2	1.0	b
c Minimum	--	--	--	--	27.2	.5	.1	--	--	--	--	--	--	--	41.8	13.2	--	--	--	--	--	--	--	--	90.7	.4	c
d Samples .....number..	--	--	--	--	(1)	(2)	(2)	(2)	--	--	--	--	--	--	(2)	(2)	--	--	--	--	--	--	--	--	(2)	(2)	d
126 United States of America (comparative analysis):																										126	
a Hydraulic-pressed, crude	--	--	--	--	--	--	--	--	--	--	36.7	--	--	--	18.5	43.9	--	--	--	--	--	--	--	--	94.1	2.2	a
b Hydraulic-pressed, refined	--	--	--	--	--	--	--	--	--	--	35.9	--	--	--	19.9	43.2	--	--	--	--	--	--	--	--	94.7	2.1	b
c Solvent-extracted, crude	--	--	--	--	--	--	--	--	--	--	34.2	--	--	--	26.2	38.8	--	--	--	--	--	--	--	--	91.7	1.4	c
d Solvent-extracted, refined	--	--	--	--	--	--	--	--	--	--	30.2	--	--	--	32.7	36.3	--	--	--	--	--	--	--	--	92.3	1.3	d
127 Onion, garden (<i>Allium cepa</i>) seed	--	--	--	--	--	2.8	1.6	--	--	--	4.4	--	--	--	57.5	38.1	--	--	--	--	--	--	--	--	126.5	--	127
128 Parsley, garden, curly (<i>Petroselinum sativum</i>) seed, England.	--	--	--	--	--	2.0	--	--	--	--	39/ 3.0	--	--	--	40/91.0	6.0	--	--	--	--	--	--	--	--	--	4.5	128
129 Parsnip, garden (<i>Pastinaca sativa</i>) seed.	--	--	--	--	--	1.0	--	--	--	--	1.0	--	--	--	41/78.0	21.0	--	--	--	--	--	--	--	--	92.7	1.6	129
130 Potato (<i>Solanum tuberosum</i>) tuber, (Katahdin), U.S.A.																										130	
a Air-dried	--	--	--	--	--	--	--	--	--	--	27.0	--	--	--	1.8	39.1	32.2	--	--	--	--	--	--	--	160.0	11.5	a
b Vacuum-dried	--	--	--	--	--	--	--	--	--	--	23.3	--	--	--	6.9	41.3	28.4	--	--	--	--	--	--	--	159.0	14.0	b
Pumpkin. See <i>Cucurbita</i> species.																											
131 Radish, garden (<i>Raphanus sativus</i>) seed, India.	--	--	--	--	--	1.3	1.4	3.0	3.4	--	9.1	--	--	--	60.4	4.5	3.7	--	--	--	20/22.0	--	--	103.1	.2	131	
Rape, bird. See <i>Brassica</i> species.																											
132 Sesame, Oriental (<i>Sesamum indicum</i>): Seed, China	--	--	--	--	--	8.1	4.8	.4	--	trace	13.3	--	--	--	50.3	38.5	--	--	--	--	--	--	--	--	110.8	1.7	132
133 Seed, India (2 studies):																										133	
a Selected value	--	--	--	--	.2	9.0	4.5	1.1	--	--	14.8	--	--	0.5	40.0	44.7	--	--	--	--	--	--	--	--	114.0	1.8	a
b Maximum	--	--	--	--	.3	9.4	5.7	1.2	--	--	--	--	--	--	44.6	48.4	--	--	--	--	--	--	--	--	--	2.0	b
c Minimum	--	--	--	--	.1	8.1	3.5	1.1	--	--	--	--	--	--	35.0	40.5	--	--	--	--	--	--	--	--	--	1.6	c
d Samples .....number..	--	--	--	--	(2)	(2)	(2)	(2)	--	--	--	--	--	(1)	(2)	(2)	--	--	--	--	--	--	--	--	(1)	(2)	d
134 Seed (progressive hydrogenation), India.	--	--	--	--	--	9.1	4.3	.8	--	--	14.2	--	--	--	45.4	40.4	--	--	--	--	--	--	--	--	109.6	1.2	134
135 Seed; crude oils (comparative analysis):																										135	
a Nebraska, U.S.A.	--	--	--	--	--	--	--	--	--	--	15.1	--	--	--	39.1	43.6	--	--	--	--	--	--	--	--	109.8	1.8	a
b South Carolina, U.S.A.	--	--	--	--	--	--	--	--	--	--	11.2	--	--	--	45.4	41.4	--	--	--	--	--	--	--	--	111.5	1.6	b
c South Carolina, U.S.A.	--	--	--	--	--	--	--	--	--	--	15.5	--	--	--	36.4	46.1	--	--	--	--	--	--	--	--	111.6	1.7	c
d Nicaragua (after 14 months storage).	--	--	--	--	--	--	--	--	--	--	14.4	--	--	--	36.1	46.6	--	--	--	--	--	--	--	--	112.8	2.3	d
136 Soybean (<i>Glycine max</i>), U.S.A.: Soybean oil (2 studies, 1922):																										136	
a Selected value	--	--	--	--	--	6.3	4.4	.7	--	0.1	12.0	--	--	--	30.5	55.1	2.4	--	--	--	--	--	--	--	131.0	.9	a
b Maximum	--	--	--	--	--	--	--	--	--	--	12.0	--	--	--	33.4	59.2	2.5	--	--	--	--	--	--	--	134.0	1.1	b
c Minimum	--	--	--	--	--	--	--	--	--	--	9.7	--	--	--	27.7	51.5	2.3	--	--	--	--	--	--	--	128.0	.6	c
d Samples .....number..	--	--	--	--	--	(1)	(1)	(1)	--	(1)	(2)	--	--	--	(2)	(2)	(2)	--	--	--	--	--	--	--	(2)	(2)	d
137 Soybean oil, 1949:																										137	
a Selected value	--	--	--	--	--	--	--	--	--	--	18.2	--	--	--	17.9	56.4	7.5	--	--	--	--	--	--	--	132.9	--	a
b Maximum	--	--	--	--	--	--	--	--	--	--	20.0	--	--	--	23.1	61.5	8.0	--	--	--	--	--	--	--	136.6	--	b
c Minimum	--	--	--	--	--	--	--	--	--	--	17.1	--	--	--	11.9	51.6	6.4	--	--	--	--	--	--	--	128.7	--	c
d Samples .....number..	--	--	--	--	--	--	--	--	--	--	(13)	--	--	--	(13)	(13)	(13)	--	--	--	--	--	--	--	(13)	--	d
138 Soybean oil used in frying:																										138	
a Before frying	--	--	--	--	--	--	--	--	--	--	16.2	--	--	--	21.0	55.9	7.1	.1	--	--	--	--	--	--	132.9	--	a
b After frying	--	--	--	--	--	--	--	--	--	--	14.2	--	--	--	25.1	54.4	6.3	.1	--	--	--	--	--	--	132.3	--	b
139 Soybean, whole seed:																										139	
a Raw	--	--	--	--	--	--	--	--	--	--	21.1	--	--	--	17.0	54.4	7.1	.4	--	--	--	--	--	--	128.5	--	a
b Cooked	--	--	--	--	--	--	--	--	--	--	21.0	--	--	--	16.8	54.9	7.0	.3	--	--	--	--	--	--	129.0	--	b

NOTE: Values based on single lots unless otherwise indicated.

20/ Erucic acid.

39/ Includes 1.0 percent higher saturated acids.

40/ Includes 76.0 percent petroselinic acid, an isomer of oleic acid.

Item number and description		Saturated fatty acids (weight percentage of total fatty acids)										Unsaturated fatty acids (weight percentage of total fatty acids)											Iodine value (24)	Unsaponifiable (25)	Item number		
		C ₆ (1)	C ₈ (2)	C ₁₀ (3)	C ₁₂ (4)	C ₁₄ (5)	C ₁₆ (6)	C ₁₈ (7)	C ₂₀ (8)	C ₂₂ (9)	C ₂₄ (10)	Total (11)	C ₁₂ (-2H) (12)	C ₁₄ (-2H) (13)	C ₁₆ (-2H) (14)	C ₁₈ (-2H) (15)	C ₁₈ (-4H) (16)	C ₁₈ (-6H) (17)	C ₂₀ (-2H) (18)	C ₂₀ (-4H) (19)	C ₂₀ (-8H) (20)	C ₂₂ (-2H) (21)				C ₂₂ (-4H) (22)	C ₂₄ (23)
Vegetables including seed, spice, and alkaloidal products -- continued.																									Percent		
Squash, winter. See <i>Cucurbita</i> species.																											
140	Star-anise (<i>Illicium verum</i>) seed, India.	--	--	--	--	4.4	--	7.9	--	--	--	12.3	--	--	--	63.2	24.4	--	--	--	--	--	--	--	88.4	0.6	140
141	Sugarcane (<i>Saccharum officinarum</i>) oil, Cuba.	--	2.0	1.2	3.3	3.1	25.0	4.6	7.6	--	--	46.8	--	--	--	10.2	36.1	6.9	--	--	--	--	--	--	85.8	23.0	141
142	Taban merah (<i>Kalaquium oblongifolium</i>) seed, Malaya.	--	--	--	--	.2	5.9	54.0	--	--	--	60.1	--	--	--	39.9	--	--	--	--	--	--	--	--	33.9	.6	142
143	Tea, common (<i>Camellia</i> species) seed: Assam (<i>C. sasanqua</i>), India.	--	--	--	--	2.0	15.0	.3	--	--	--	17.3	--	--	--	58.4	24.3	--	--	--	--	--	--	--	88.1	2.2	143
144	<i>C. sinensis</i> , China:																									144	
a	Oil	--	--	--	--	--	--																				

NOTE: Values based on single lots unless otherwise indicated.

17/ Degree of unsaturation unknown.
34/ Fatty acids reported add to less than 96 percent.42/ Alpha-elaeostearic acid, an isomer of linolenic acid.
43/ Includes other polyethenoid acids.
44/ Higher saturated acids < 1 percent.

Item number and description		Saturated fatty acids (weight percentage of total fatty acids)										Unsaturated fatty acids (weight percentage of total fatty acids)													Iodine value	Unsaponifiable	Item number	
		C ₆	C ₈	C ₁₀	C ₁₂	C ₁₄	C ₁₆	C ₁₈	C ₂₀	C ₂₂	C ₂₄	Total	C ₁₂ (-2H)	C ₁₄ (-2H)	C ₁₆ (-2H)	C ₁₈ (-2H)	C ₁₈ (-4H)	C ₁₈ (-6H)	C ₂₀ (-2H)	C ₂₀ (-4H)	C ₂₀ (-6H)	C ₂₂ (-2H)	C ₂₂ (-4H)	C ₂₄				
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)				(24)	(25)
Nuts and peanuts -- continued																										Percent		
164	Peanut (<i>Arachis hypogaea</i>): Commercial oil, W. Africa		--	--	--	--	8.8	4.5	6.1			19.4	--	--	--	60.3	20.3	--	--	--	--	--	--	--	89.9	1.4	164	
165	Oil, India (2 studies):																											
a	Selected value		--	--	--	--	0.5	7.9	4.4	6.6			19.4	--	--	1.9	52.4	26.3	--	--	--	--	--	--	--	90.0	.2	165
b	Maximum		--	--	--	--	--	--	--	--			21.6	--	--	--	52.5	26.3	--	--	--	--	--	--	--	--	--	a
c	Minimum		--	--	--	--	--	--	--	--			19.4	--	--	--	52.4	25.9	--	--	--	--	--	--	--	--	--	b
d	Samples .....number..		--	--	--	--	(1)	(1)	(1)	(1)			(2)	--	--	(1)	(2)	(2)	--	--	--	--	--	--	--	(1)	(1)	c
166	Oil (progressive hydrogenation), India.		--	--	--	--	8.3	3.1	2.4	3.1	1.1	10.0	--	--	--	56.0	26.0	--	--	--	--	--	--	--	93.3	.4	166	
167	Oil, Spanish variety, U.S.A.		--	--	--	--	8.2	6.2	4.0	--	3.0	21.4	--	--	--	52.9	24.7	--	--	--	--	--	--	--	90.1	.2	167	
168	Oil, Tanganyika (3 varieties):																											
a	Natal common		--	--	--	--	9.7	5.6	8.0			23.3	--	--	--	40.8	35.9	--	--	--	--	--	--	--	100.5	.9	168	
b	Spanish bunch		--	--	--	--	8.7	5.0	9.9			23.6	--	--	--	39.2	37.2	--	--	--	--	--	--	--	104.0	1.2	a	
c	Valencia		--	--	--	--	10.8	4.2	7.6			22.6	--	--	--	39.2	38.2	--	--	--	--	--	--	--	104.1	1.6	b	
169	Oil, Virginia variety, U.S.A.		--	--	--	--	6.3	4.9	3.3	--	2.6	17.1	--	--	--	60.6	21.6	--	--	--	--	--	--	--	94.8	.3	169	
170	United States of America:																											
a	Butter		--	--	--	--	1.1	11.8	6.0	8.0	--	26.9	--	--	--	38.0	35.1	--	--	--	--	--	--	--	--	--	170	
b	Oil		--	--	--	--	--	--	--	--	--	18.8	--	--	--	50.2	31.0	--	--	--	--	--	--	--	101.4	--	a	
c	Raw		--	--	--	--	1.0	12.2	6.9	10.4	--	30.5	--	--	--	36.2	33.3	--	--	--	--	--	--	--	--	--	b	
d	Roasted		--	--	--	--	.9	12.0	4.7	5.3	--	23.4	--	--	--	44.4	32.2	--	--	--	--	--	--	--	--	--	c	
171	Pecan (<i>Carya illinoensis</i>):																											
a	Kernel, U.S.A. (2 varieties):																											
b	Stuart		--	--	--	--	45/ 1.2	9.5	4.3	--	--	15.0	--	--	.2	60.2	23.6	1.0	--	--	trace	--	--	--	100.3	5.9	171	
	Success		--	--	--	--	6.3	1.1	--	--	--	7.4	--	--	.3	69.9	21.5	1.0	--	--	0.1	trace	--	--	105.0	4.6	a	
172	Oil, U.S.A. (2 studies):																											
a	Selected value		--	--	--	--	trace	3.3	1.9	.1	--	5.3	--	--	--	78.8	15.9	--	--	--	--	--	--	--	100.0	.4	172	
b	Maximum		--	--	--	--	--	--	--	--	--	5.3	--	--	--	80.0	16.0	--	--	--	--	--	--	--	--	--	b	
c	Minimum		--	--	--	--	--	--	--	--	--	4.0	--	--	--	77.8	15.8	--	--	--	--	--	--	--	--	--	c	
d	Samples .....number..		--	--	--	--	(1)	(1)	(1)	(1)	--	(2)	--	--	--	(2)	(2)	--	--	--	--	--	--	--	(1)	(1)	d	
173	"Pilinut" Java almond (<i>Canarium commune</i>), East Indies:																											
a	Cold-pressed		--	--	--	--	29.0	9.7	--	--	--	38.7	--	--	--	38.3	21.8	1.2	--	--	--	--	--	--	73.5	.6	173	
b	Extracted		--	--	--	--	30.5	10.2	--	--	--	40.7	--	--	--	39.9	18.7	.7	--	--	--	--	--	--	70.2	.2	a	
174	Pistachio nut:																											
a	Common (<i>Pistacia vera</i>), India		--	--	--	--	.6	8.2	1.6	--	--	10.4	--	--	--	69.0	19.6	--	--	--	--	--	--	--	94.7	.8	174	
b	Common (<i>P. vera</i>), Turkey		--	--	--	--	--	--	--	--	--	20.3	--	--	--	62.8	17.0	--	--	--	--	--	--	--	83.7	.8	a	
c	Egyptian (<i>P. khinjuk</i>), Turkey		--	--	--	--	--	--	--	--	--	14.7	--	--	--	56.4	28.9	--	--	--	--	--	--	--	98.8	.5	b	
d	Terebinth (<i>P. terebinthus</i>), Turkey		--	--	--	--	--	--	--	--	--	20.6	--	--	--	58.4	21.1	--	--	--	--	--	--	--	89.0	1.0	c	
175	<i>Ricinodendron viticoides</i> , tree nut, Tanganyika.		--	--	--	--	--	--	--	--	--	13.7	--	--	--	15.1	40.1	31.1	--	--	--	--	--	--	133.7	1.2	175	
176	<i>Terminalia</i> species:																											
a	Belleric (<i>T. bellerica</i>), India		--	--	--	--	21.4	18.2	.4	--	--	40.0	--	--	--	27.4	32.5	--	--	--	--	--	--	--	--	--	176	
b	Okarint (<i>T. kaernbachii</i>), New Guinea.		--	--	--	--	46/ 1.7	37.8	7.9	1.3			48.7	--	--	35.0	14.8	--	--	--	--	--	--	--	61.1	1.7	a	
c	Tropical almond (<i>T. catappa</i>), Puerto Rico		--	--	--	--	.7	38.2	4.0	--			42.9	--	--	36.7	18.7	--	--	--	--	--	--	--	71.3	.7	b	
177	<i>Tetracarpidium conophorum</i> (Awusa, conophor) Africa:																											
a	Kernel, air-dried		--	--	--	--	3.0	8.0	trace	--	--	11.0	--	--	--	13.0	12.0	64.0	--	--	--	--	--	--	198.6	.4	177	
b	Kernel, kiln-dried		--	--	--	--	7.0	6.0	--	--	--	13.0	--	--	--	11.0	11.0	65.0	--	--	--	--	--	--	199.4	.5	a	
178	<i>Virola surinamensis</i> , kernel, Brazil		--	--	0.7	13.0	69.7	3.0	.9	--	--	87.3	--	--	--	7.7	5.1	--	--	--	--	--	--	--	16.9	2.5	b	
179	Walnut (<i>Juglans</i> species):																											
	Black (<i>J. nigra</i>), U.S.A.		--	--	--	--	.4	3.6	1.9	--	--	trace	5.9	--	--	--	37.2	50.8	7.7	--	--	--	--	--	135.1	.4	179	
180	English (<i>J. regia</i>), California, U.S.A. (2 studies):																											
a	Selected value		--	--	--	--	.2	5.0	1.9	trace	--	7.1	--	--	.5	16.0	64.8	7.9	1.6	1.1	18/1.0	--	--	--	161.7	.5	a	
b	Maximum		--	--	--	--	.5	5.5	2.9	--	--	--	--	--	--	17.6	72.8	12.6	--	--	--	--	--	--	--	--	b	
c	Minimum		--	--	--	--	trace	4.6	.9	--	--	--	--	--	--	14.5	59.8	3.2	--	--	--	--	--	--	--	--	c	
d	Samples .....number..		--	--	--	--	(2)	(2)	(2)	(1)	--	--	--	--	(1)	(2)	(2)	(2)	(1)	(1)	(1)	--	--	--	(1)	(1)	d	

NOTES: Values based on single lots unless otherwise indicated.

18/ C₂₀ (-6.0H).45/ Reported "C₁₆".46/ Reported "C₁₄ and lower".

Item number and description		Saturated fatty acids (weight percentage of total fatty acids)										Unsaturated fatty acids (weight percentage of total fatty acids)												Iodine value	Unsaponifiable	Item number	
		C ₆	C ₈	C ₁₀	C ₁₂	C ₁₄	C ₁₆	C ₁₈	C ₂₀	C ₂₂	C ₂₄	Total	C ₁₂ (-2H)	C ₁₄ (-2H)	C ₁₆ (-2H)	C ₁₈ (-2H)	C ₁₈ (-4H)	C ₁₈ (-6H)	C ₂₀ (-2H)	C ₂₀ (-4H)	C ₂₀ (-8H)	C ₂₂ (-2H)	C ₂₂ (-4H)				C ₂₄
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)				(23)	(24)	(25)
Grains:																									Percent		
181	Brewers' grains, dried, U.S.A. 47/...	--	--	--	--	--	17.3	4.6	--	--	--	21.9	--	--	--	48/30.9	49/44.3	--	--	--	--	--	--	--	110.0	4.6	181
182	Corn (Zea mays): Commercial yellow (crude oil), germ, U.S.A.	--	--	--	--	--	--	--	--	--	--	13.2	--	--	--	30.6	56.2	--	--	--	--	--	--	--	126.0	2.9	182
183	Commercial refined oil, U.S.A. (6 studies):																									183	
a	Selected value	--	--	--	--	0.1	8.3	3.4	0.4	--	0.2	12.4	--	--	1.2	30.0	54.1	0.6	50/ 1.7	--	--	--	--	--	126.7	1.6	a
b	Maximum	--	--	--	--	--	8.7	4.1	--	--	--	13.1	--	--	--	47.5	60.6	--	--	--	--	--	--	--	134.2	1.7	b
c	Minimum	--	--	--	--	--	8.1	2.5	--	--	--	10.7	--	--	--	27.1	42.8	--	--	--	--	--	--	--	117.2	1.5	c
d	Samples .....number..	--	--	--	--	(1)	(3)	(3)	(1)	--	(1)	(6)	--	--	(1)	(6)	(6)	(1)	(1)	--	--	--	--	--	(6)	(2)	d
184	Embryo oil:																									184	
a	Argentina	--	--	--	--	--	--	--	--	--	--	18.4	--	--	--	36.4	42.7	1.6	--	--	--	--	--	--	109.5	.8	a
b	Bulgaria	--	--	--	--	--	--	--	--	--	--	13.6	--	--	--	18.8	63.5	2.8	--	--	--	--	--	--	133.3	1.2	b
185	Germ:																									185	
a	Argentina	--	--	--	--	.2	13.0	.9	1.5	0.2	--	15.3	--	--	.2	41.9	40.6	--	1.5	--	--	--	--	--	--	--	a
b	United States of America	--	--	--	--	.2	9.9	2.9	0.2	--	--	13.2	--	--	.5	30.1	56.2	--	--	--	--	--	--	--	126	2.9	b
186	Germ, U.S.A.:																									186	
a	High-oil content, hybrid	--	--	--	--	--	--	--	--	--	--	14.9	--	--	--	39.3	45.8	--	--	--	--	--	--	--	113.2	1.7	a
b	High-oil content, hybrid mixture	--	--	--	--	--	--	--	--	--	--	14.9	--	--	--	34.8	50.3	--	--	--	--	--	--	--	118.0	3.3	b
187	Gluten, U.S.A.	--	--	--	--	.6	11.4	3.5	0.2	--	--	15.7	--	--	.3	28.1	53.3	2.6	--	--	--	--	--	--	129	13.6	187
188	Kernels from dry field-grown corn (1950 crop), U.S.A. : 51/																									188	
a	Selected value	--	--	--	--	--	--	--	--	--	--	9.4	--	--	--	45.6	45.0	--	--	--	--	--	--	--	117.3	--	a
b	Maximum	--	--	--	--	--	--	--	--	--	--	52/ 18.5	--	--	--	75.9	67.6	--	--	--	--	--	--	--	139.5	--	b
c	Minimum	--	--	--	--	--	--	--	--	--	--	0.0	--	--	--	19.8	16.2	--	--	--	--	--	--	--	88.4	--	c
d	Samples .....number..	--	--	--	--	--	--	--	--	--	--	52/ (12)	--	--	--	(12)	(12)	--	--	--	--	--	--	--	(12)	--	d
189	Oil from 2 varieties, U.S.A. :																									189	
a	Waxy	--	--	--	--	--	8.3	5.1	--	--	--	13.4	--	--	--	31.0	55.2	--	--	--	--	--	--	--	128.0	--	a
b	Yellow	--	--	--	--	--	8.0	4.4	--	--	--	12.4	--	--	--	33.2	54.4	--	--	--	--	--	--	--	128.2	--	b
190	Starch, U.S.A. (4 studies):																									190	
a	Selected value	--	--	--	--	.7	23.3	5.3	1.5	--	--	31.3	--	--	.8	30.3	36.4	1.2	--	--	--	--	--	--	94.2	4.6	a
b	Maximum	--	--	--	--	--	26.3	7.8	--	--	--	31.3	--	--	--	40.0	47.2	1.3	--	--	--	--	--	--	103.0	5.3	b
c	Minimum	--	--	--	--	--	22.0	2.8	--	--	--	24.0	--	--	--	20.7	31.1	1.2	--	--	--	--	--	--	89.1	3.2	c
d	Samples .....number..	--	--	--	--	(1)	(3)	(2)	(1)	--	--	(4)	--	--	(1)	(4)	(4)	(2)	--	--	--	--	--	--	(3)	(3)	d
191	Whole grain, U.S.A.:																									191	
a	Burr white:																									a	
b	High oil content	--	--	--	--	--	--	--	--	--	--	13.9	--	--	--	38.6	47.5	--	--	--	--	--	--	--	115.5	3.9	b
	Low oil content	--	--	--	--	--	--	--	--	--	--	10.9	--	--	--	23.0	66.1	--	--	--	--	--	--	--	130.6	8.0	
192	Yellow dent hybrid:																									192	
a	Selected value	--	--	--	--	--	--	--	--	--	--	11.4	--	--	--	35.1	53.5	--	--	--	--	--	--	--	122.8	2.8	a
b	Maximum	--	--	--	--	--	--	--	--	--	--	12.2	--	--	--	40.3	56.7	--	--	--	--	--	--	--	125.7	2.9	b
c	Minimum	--	--	--	--	--	--	--	--	--	--	10.5	--	--	--	32.1	48.1	--	--	--	--	--	--	--	118.0	2.6	c
d	Samples .....number..	--	--	--	--	--	--	--	--	--	--	(7)	--	--	--	(7)	(7)	--	--	--	--	--	--	--	(7)	(7)	d
193	Whole white cornmeal (enriched), U.S.A.	--	--	--	--	--	8.9	1.3	1.9	--	--	12.1	--	--	--	36.6	46.9	.9	2.5	1.0	--	--	--	--	--	--	193
194	Millet, foxtail (<i>Setaria italica</i>), India	--	--	--	--	--	11.1	14.7	6.6	1.3	--	33.7	--	--	--	21.8	38.1	6.4	--	--	--	--	--	--	120.4	2.8	194
195	Oat, common (<i>Avena sativa</i>):																									195	
a	Oil, Germany	--	--	--	--	--	10.4	--	--	--	--	10.4	--	--	--	58.5	31.1	--	--	--	--	--	--	--	--	--	a
b	Rolled oats, U.S.A.	--	--	--	--	.4	13.4	4.3	4.6	--	--	22.7	--	--	.1	33.0	42.8	1.2	--	--	0.2	--	--	--	--	--	b
c	Whole, Sweden	--	--	--	--	.2	10.1	4.5	--	--	--	14.8	--	--	1.4	41.3	35.5	2.1	--	--	5.1	--	--	--	--	--	c
196	Rice (<i>Oryza sativa</i>), U.S.A.:																									196	
a	Bran crude oil:																									a	
b	Blue bonnet, Texas	--	--	--	--	--	--	--	--	--	--	17.9	--	--	--	47.1	34.7	.8	--	--	--	--	--	--	--	3.9	b
	Zenith, Arkansas	--	--	--	--	--	--	--	--	--	--	18.1	--	--	--	48.1	32.0	1.2	--	--	--	--	--	--	--	5.0	
197	Bran refined oil (2 studies):																									197	
a	Selected value	--	--	--	--	--	--	--	--	--	--	19.0	--	--	--	44.2	36.0	.3	trace	--	--	--	--	--	104.3	2.7	a
b	Maximum	--	--	--	--	--	--	--	--	--	--	20.1	--	--	--	48.4	38.5	--	--	--	--	--	--	--	--	--	b
c	Minimum	--	--	--	--	--	--	--	--	--	--	17.9	--	--	--	40.2	34.6	--	--	--	--	--	--	--	--	--	c</

NOTE: Values based on single lots unless otherwise indicated.

⁴⁷/ Spent grains derived from a mixture of American barley, malt, and rice.⁴⁸/ Includes 1.7 percent isoleic acid, an isomer of oleic acid.⁴⁹/ Also higher unsaturated acids, 2.9 percent.⁵⁰/ Reported as "above C₁₈".⁵¹/ Authors reported that data were chosen from several thousand samples of corn grown during a four-year period. Each determination represented an individual ear of corn.⁵²/ Saturated acids were determined by difference.

Item number and description		Saturated fatty acids (weight percentage of total fatty acids)										Unsaturated fatty acids (weight percentage of total fatty acids)												Iodine value	Unsaponifiable	Item number	
		C ₆	C ₈	C ₁₀	C ₁₂	C ₁₄	C ₁₆	C ₁₈	C ₂₀	C ₂₂	C ₂₄	Total	C ₁₂ (-2H)	C ₁₄ (-2H)	C ₁₆ (-2H)	C ₁₈ (-2H)	C ₁₈ (-4H)	C ₁₈ (-6H)	C ₂₀ (-2H)	C ₂₀ (-4H)	C ₂₀ (-8H)	C ₂₂ (-2H)	C ₂₂ (-4H)				C ₂₄
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)				(23)	(24)	(25)
Grains -- continued																										Percent	
202	Sorghum (<i>Sorghum vulgare</i>), U.S.A.: Forage-type (4 varieties):						8.7	4.6			13.3				42.2	44.5									118.2	2.2	202
a	Selected value						9.8	5.8							45.4	47.7									120.7	2.3	a
b	Maximum						7.0	3.2							38.6	41.6									113.7	2.1	b
c	Minimum						(4)	(4)							(4)	(4)									(4)	(4)	c
d	Samples .....number..																										d
203	Grain-type (11 varieties):						7.6	4.9			12.5				39.9	47.6									121.9	2.6	203
a	Selected value						9.5	6.0							44.0	51.7									126.9	3.2	a
b	Maximum						6.0	3.0							36.8	42.5									116.5	2.0	b
c	Minimum						(11)	(11)							(11)	(11)									(11)	(11)	c
d	Samples .....number..																										d
204	Grain parts:					0.6	10.2	4.1	trace			14.9			0.4	32.2	51.5	1.0							122	1.7	204
a	Germ					2.2	14.0	6.0	trace			22.2			.5	29.6	45.4	2.3							98	8.0	a
b	Gluten .....					.4	31.6	5.4	0.1			37.5			.6	22.0	39.9	trace							94	2.5	b
c	Starch																										c
205	Grain oil .....					.2	8.3	5.8			14.3			.1	36.2	49.4									119.0	1.9	205
206	Wheat (<i>Triticum aestivum</i>): Embryo, U.S.A.										16.0				28.1	52.3	3.6								125.0	4.0	206
207	Germ:						16.3	5.6			21.9				11.4	57.0	9.2									.5	207
a	England										18.9				22.2	52.0	6.9									3.6	a
b	Germany										15.5				25.5	52.6	6.3								128.6	4.0	b
c	United States of America																										c
208	Starch, U. S. A.						35.0				35.0				41.0	24.0											208
209	White flour, straight-grade hard spring wheat.										15.6				34.6	46.0	3.3								1125.0	5.5	209
Other seeds:																											
210	Abutilon (<i>Abutilon indicum</i>), India 53/						5.6	12.2			17.8				45.2	29.2	7.5								100.3	2.3	210
211	Acacia, Giraffe (<i>Acacia giraffae</i>), South Africa:					trace	12.8	5.6	1.7	0.9	21.0		trace	54/ 7.3	23.5	41.5	4.2	1.4							112.9	4.5	a
a	Seed.....					.8	17.0	9.1	8.3	.1	35.3		trace	54/ 10.4	29.3	19.0		4.9							69.0	26.0	b
b	Seed pod.....																										
212	<i>Adhatoda vasica</i> , India								3.4	12.1	11.6	55/32.5			54.1	13.4									71.7	3.2	212
213	Akebia, threelobe (<i>Akebia trifoliata</i>), Japan.						23.0	2.0			25.0				53.0	22.0									78.6		213
214	<i>Albizia</i> species, India:					1.6	8.0	4.6	2.3	.6	.4	17.5			33.2	49.3									116.6	4.2	214
a	<i>A. amara</i>						7.3	9.6	10.9			27.8			39.3	32.9									92.6	9.5	a
b	<i>A. lebbek</i>						14.3	6.9	.8			22.0			26.6	51.4									114.5	5.7	b
c	<i>A. odoratissima</i>																										c
215	Amaranth (<i>Amaranthus gangeticus</i>), India						21.8	2.3			24.1				45.7	28.6									76.3	2.6	215
216	<i>Ammi visnaga</i> :					.1	4.8	1.6	.4	.7	7.6				56/ 73.8	18.6									100.1	7.9	216
a	Argentina						5.0				5.0				57/ 82.0	13.0									97.4		a
b	Sudan																										b
	<i>Anamirta cocculus</i> . See Fishberry.																										
217	Angelica, Woodland (<i>Angelica sylvestris</i>), England.						4.0				4.0				58/ 63.0	33.0											217
218	Balsam, garden (<i>Impatiens balsamina</i>), India.						4.7	5.8	2.8		13.3				18.3	9.2	59/30.1								177.4	.9	218
219	<i>Bombax</i> species:						28.3	7.3			35.6				49.9	14.5									84.9	1.6	219
a	<i>B. malabaricum</i> , Japan										50.7				40.8	8.5									49.9	.8	a
b	<i>B. sessile</i> , Brazil																										b
220	<i>Boscia octandra</i> , Africa						41.8				41.8				31.4	26.8									76.5	10.0	220
221	Bulletwood, Heckel (<i>Mimusops heckeli</i>), W. Africa.						4.4	36.0	.5		40.9			.3	58.5	.3											221
	Bull-nettle. See <i>Cnidioscolus texanus</i> .																										
	Bush clover. See <i>Lespedeza</i> species.																										

NOTE: Values based on single lots unless otherwise indicated.
 1/ Based on total fatty acids instead of total fat.
 53/ Called "Kanghi" or "Feelee-booti" in India.
 54/ Also 1.1 percent C₁₆(-4H).
 55/ Includes 5.4 percent C₂₆ saturated fatty acid.

56/ Includes 44 percent petroselinic acid, an isomer of oleic acid.
 57/ Includes 50.0 percent petroselinic acid, an isomer of oleic acid.
 58/ Includes 19.0 percent petroselinic acid, an isomer of oleic acid.
 59/ Also 29.1 percent parinaric acid (C₁₈H₂₈O₂).

Item number and description		Saturated fatty acids (weight percentage of total fatty acids)										Unsaturated fatty acids (weight percentage of total fatty acids)												Iodine value	Unsaponifiable	Item number	
		C ₆	C ₈	C ₁₀	C ₁₂	C ₁₄	C ₁₆	C ₁₈	C ₂₀	C ₂₂	C ₂₄	Total	C ₁₂ (-2H)	C ₁₄ (-2H)	C ₁₆ (-2H)	C ₁₈ (-2H)	C ₁₈ (-4H)	C ₁₈ (-6H)	C ₂₀ (-2H)	C ₂₀ (-4H)	C ₂₀ (-8H)	C ₂₂ (-2H)	C ₂₂ (-4H)				C ₂₄
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	
Other seeds --continued																											
222	<i>Butyrospermum parkii</i> , W. Africa	--	--	--	--	--	8.5	36.0	--	--	--	44.5	--	--	--	50.0	5.5	--	--	--	--	--	--	--	6.2	--	222
223	<i>Caesalpinia sepiaria</i> , India	--	--	--	--	--	5.6	7.2	--	--	0.5	13.3	--	--	--	23.5	63.1	--	--	--	--	--	--	--	130.7	0.9	223
224	Calabash tree, common (<i>Crescentia cujete</i>), U.S.A.	--	--	--	--	--	--	--	--	--	--	19.7	--	--	--	59.4	19.3	1.6	--	--	--	--	--	--	88.7	.8	224
225	California laurel (<i>Umbellularia californica</i>), U.S.A.	--	1.0	37.0	62.0	--	--	--	--	--	--	100.0	--	--	--	--	--	--	--	--	--	--	--	--	5.7	2.1	225
226	<i>Calophyllum wightianum</i> , India	--	--	--	--	--	8	14	--	--	--	22	--	--	--	48	30	--	--	--	--	--	--	--	102.1	4.5	226
227	Caper (<i>Capparis rothii</i>), Sudan	--	--	--	--	--	15.5	24.5	--	--	--	40.0	--	--	--	38.0	22.0	--	--	--	--	--	--	--	73.8	.7	227
<i>Carthamus</i> species:																											
Safflower (<i>C. tinctorius</i>) seed:																											
228	Africa	--	--	--	--	--	6.4	3.1	0.2	--	--	9.7	--	--	--	13.4	76.9	--	--	--	--	--	--	--	142.5	.8	228
229	Hungary	--	--	--	--	--	--	--	--	--	--	4.8	--	--	--	21.7	73.3	--	--	--	--	--	--	--	145.7	.5	229
230	India (4 studies):																										230
a	Selected value	--	--	--	--	1.5	3.0	1.3	0.5			6.0	--	--	--	25.5	68.5	--	--	--	--	--	--	--	137.9	.8	a
b	Maximum	--	--	--	--	--	--	--	--			10.9	--	--	--	36.5	75.1	--	--	--	--	--	--	--	144.8	.9	b
c	Minimum	--	--	--	--	--	--	--	--			6.0	--	--	--	16.0	57.1	--	--	--	--	--	--	--	130.3	.8	c
d	Samples	--	--	--	--	(1)	(1)	(1)	(1)			(4)	--	--	--	(4)	(4)	--	--	--	--	--	--	--	(4)	(2)	d
231	Indian variety:																										231
a	Grown in North Dakota, U.S.A. ...	--	--	--	--	--	5.1	6.5	.5	1.2	--	13.3	--	--	0.1	7.5	78.5	.1	0.3	--	--	20/ 0.2	--	--	145.2	1.4	a
b	Grown in Saskatchewan, Canada ...	--	--	--	--	.4	4.1	5.4	1.0	.5	--	11.4	--	--	.2	7.1	80.0	.1	.3	--	--	20/ .9	--	--	147.9	1.0	b
232	Montana, U.S.A. (sample of hot-pressed oil).	--	--	--	--	trace	4.1	1.6	.4	--	.1	6.2	--	--	--	25.7	65.8	.2	--	--	--	--	--	--	149.3	.6	232
233	Montana, U.S.A. (8 varieties):																										233
a	Selected value	--	--	--	--	--	--	--	--	--	--	5.7	--	--	--	16.4	77.9	--	--	--	--	--	--	--	149.1	.5	a
b	Maximum	--	--	--	--	--	--	--	--	--	--	6.7	--	--	--	17.3	79.0	--	--	--	--	--	--	--	149.8	--	b
c	Minimum	--	--	--	--	--	--	--	--	--	--	5.0	--	--	--	14.7	76.6	--	--	--	--	--	--	--	147.2	--	c
d	Samples	--	--	--	--	--	--	--	--	--	--	(8)	--	--	--	(8)	(8)	--	--	--	--	--	--	--	(8)	(1)	d
234	Nebraska, U.S.A. (3 varieties):																										234
a	Selected value	--	--	--	--	--	--	--	--	--	--	8.2	--	--	--	15.4	76.4	--	--	--	--	--	--	--	146.0	.8	a
b	Maximum	--	--	--	--	--	--	--	--	--	--	8.5	--	--	--	17.1	80.5	--	--	--	--	--	--	--	149.2	1.0	b
c	Minimum	--	--	--	--	--	--	--	--	--	--	8.0	--	--	--	10.6	74.2	--	--	--	--	--	--	--	144.3	.4	c
d	Samples	--	--	--	--	--	--	--	--	--	--	(3)	--	--	--	(3)	(3)	--	--	--	--	--	--	--	(3)	(3)	d
235	Safflower (<i>C. oxyacantha</i>) seed (wild), India	--	--	--	--	.6	3.1	3.6	--	--	--	7.3	--	--	--	55.8	36.8	--	--	--	--	--	--	--	112.8	.4	235
236	Saffron thistle (<i>C. lanatus</i>), Australia	--	--	--	--	--	7.8	6.9	--	--	--	14.7	--	--	--	13.0	73.6	--	--	--	--	--	--	--	138.0	--	236
Castorbean (<i>Ricinus communis</i>) oil:																											
237	Africa:																										237
a	Selected value	--	--	--	--	--	--	60/ .7	--	--	--	61/ 1.6	--	--	--	62/ 94.0	4.4	--	--	--	--	--	--	--	84.8	--	a
b	Maximum	--	--	--	--	--	--	60/ .9	--	--	--	61/ 2.7	--	--	--	63/ 94.6	4.7	--	--	--	--	--	--	--	85.8	--	b
c	Minimum	--	--	--	--	--	--	60/ .6	--	--	--	61/ 1.3	--	--	--	64/ 92.6	4.0	--	--	--	--	--	--	--	84.0	--	c
d	Samples	--	--	--	--	--	--	(4)	--	--	--	(4)	--	--	--	(4)	(4)	--	--	--	--	--	--	--	(4)	(1)	d
238	India (3 studies):																										238
a	Selected value	--	--	--	--	--	--	60/ 1.6	--	--	--	61/ 4.0	--	--	--	65/ 92.0	4.0	--	--	--	--	--	--	--	83.9	.3	a
b	Maximum	--	--	--	--	--	--	60/ 2.4	--	--	--	61/ 5.4	--	--	--	66/ 94.0	6.3	--	--	--	--	--	--	--	86.8	.3	b
c	Minimum	--	--	--	--	--	--	60/ .7	--	--	--	61/ .9	--	--	--	67/ 90.9	3.4	--	--	--	--	--	--	--	80.3	.3	c
d	Samples	--	--	--	--	--	--	(4)	--	--	--	(5)	--	--	--	(5)	(5)	--	--	--	--	--	--	--	(5)	(3)	d
239	South America	--	--	--	--	--	--	60/ .9	--	--	--	61/ 2.0	--	--	--	68/ 93.5	4.5	--	--	--	--	--	--	--	84.5	--	239
240	<i>Cephalocroton cordofanus</i> , Africa:																										240
a	Seed kernel	--	--	--	--	--	--	--	--	--	--	2.1	--	--	--	69/ 91.6	6.3	--	--	--	--	--	--	--	--	1.0	a
b	Whole seed	--	--	--	--	--	3.9	2.3	.7	--	--	7.4	--	--	--	70/ 75.5	17.1	--	--	--	--	--	--	--	91.4	1.2	b
241	<i>Cerbera odollam</i> , Southeast Asia	--	--	--	--	--	32.0	10.8	--	--	--	42.8	--	--	--	38.8	18.4	--	--	--	--	--	--	--	65.7	.7	241
242	<i>Chaetachne microcarpa</i> , Africa	--	--	--	--	--	--	12.4	--	--	--	12.4	--	--	--	5.6	82.0	--	--	--	--	--	--	--	152.7	2.6	242
243	Chaulmoogratree (<i>Hydnocarpus wightiana</i>), India	--	--	--	--	--	71/ 9.6	--	--	--	--	9.6	--	--	72/ 46.4	12.4	73/ 21.5	74/ 10.0	--	--	--	--	--	--	97	.3	243
244	<i>Chrozophora plicata</i> , Africa	--	--	--	--	--	--	--	--	--	--	24.0	--	--	27.1	48.9	--	--	--	--	--	--	--	--	112.5	.7	244
245	<i>Cnidoscolus texanus</i> , U. S. A.:																										245
a	Early seed (matures about the middle of July)	--	--	--	--	--	--	--	--	--	--	12.8	--	--	--	25.3	61.5	--	--	--	--	--	--	--	129.6	--	a
b	Late seed (matures after the middle of August)	--	--	--	--	--	--	--	--	--	--	13.0	--	--	--	22.2	64.4	--	--	--	--	--	--	--	131.9	--	b
246	Colocynthis (<i>Citrullus colocynthis</i>), Algeria	--	--	--	--	1.2	8.9	5.6	--	--	--	15.7	--	0.9	1.2	17.2	65.0	--	--	--	--	--	--	--	129.1	1.0	246

NOTE: Values based on single lots unless otherwise indicated.

20/ Erucic acid.
60/ Dihydroxystearic acid, C₁₈H₃₆O₄.
61/ Includes dihydroxystearic acid (C₁₈H₃₆O₄), and other saturated fatty acids.
62/ Includes 93.0 percent ricinoleic acid, C₁₈H₃₄O₃.
63/ Includes 94.0 percent ricinoleic acid, C₁₈H₃₄O₃.
64/ Includes 91.4 percent ricinoleic acid, C₁₈H₃₄O₃.
65/ Includes 87.6 percent ricinoleic acid, C₁₈H₃₄O₃.
66/ Ricinoleic acid, C₁₈H₃₄O₃.

67/ Includes 85.5 percent ricinoleic acid, C₁₈H₃₄O₃.
68/ Includes 93.3 percent ricinoleic acid, C₁₈H₃₄O₃.
69/ Includes 32.6 percent ricinoleic acid, C₁₈H₃₄O₃.
70/ Includes 3.7 percent dihydroxyoleic acid (C₁₈H₃₄O₄) and 62.0 percent epoxyoleic acid (C₁₈H₃₂O₃).
71/ Reported "palmitic and lower homologues of hydnocarpic acid".
72/ Hydnocarpic acid, C₁₆H₂₈O₂.
73/ Chaulmoogric acid, C₁₈H₃₂O₂.
74/ Goric acid, C₁₈H₃₀O₂.

Item number and description		Saturated fatty acids (weight percentage of total fatty acids)											Unsaturated fatty acids (weight percentage of total fatty acids)											Iodine value	Unsaponifiable	Item number	
		C ₆	C ₈	C ₁₀	C ₁₂	C ₁₄	C ₁₆	C ₁₈	C ₂₀	C ₂₂	C ₂₄	Total	C ₁₂ (-2H)	C ₁₄ (-2H)	C ₁₆ (-2H)	C ₁₈ (-2H)	C ₁₈ (-4H)	C ₁₈ (-6H)	C ₂₀ (-2H)	C ₂₀ (-4H)	C ₂₀ (-6H)	C ₂₂ (-2H)	C ₂₂ (-4H)				C ₂₄
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)				(23)	(24)	(25)
Other seeds -- continued																											
247	Coralbean (<i>Erythrina indica</i>), India	--	--	--	--	--	8.2	8.0	4.3	13.3	0.6	34.4	--	--	3.1	45.6	7.1	--	9.8	--	--	--	--	--	64.7	--	247
248	Cotton (<i>Gossypium</i> species): Cottonseed, fully ripe (60 days after flowering).	--	--	--	--	--	--	--	--	--	--	22.4	--	--	--	25.5	52.1	--	--	--	--	--	--	--	114.7	1.3	248
249	Cottonseed, U.S.A.	--	--	--	--	--	--	--	--	--	--	24.4	--	--	--	20.1	55.5	--	--	--	--	--	--	--	118.5	--	249
250	Cottonseed oil, India:	--	--	--	--	--	--	--	--	--	--	24.8	--	--	--	43.2	32.0	--	--	--	--	--	--	--	92.6	--	250
a	Autoxidized	--	--	--	--	--	--	--	--	--	--	18.5	--	--	--	43.9	37.6	--	--	--	--	--	--	--	102.9	--	a
b	Natural	--	--	--	--	--	--	--	--	--	--	18.5	--	--	--	43.9	37.6	--	--	--	--	--	--	--	102.9	--	b
251	Cottonseed oil, U.S.A.:	--	--	--	--	--	--	--	--	--	--	38.0	--	--	--	54.9	7.1	--	--	--	--	--	--	--	59.4	--	251
a	Non-selectively hydrogenated	--	--	--	--	--	--	--	--	--	--	31.8	--	--	--	66.0	2.2	--	--	--	--	--	--	--	60.6	--	a
b	Selectively hydrogenated	--	--	--	--	--	--	--	--	--	--	31.8	--	--	--	66.0	2.2	--	--	--	--	--	--	--	60.6	--	b
252	Cottonseed oil, non-winterized, U.S.A.	--	--	--	--	--	--	--	--	--	--	25.8	--	--	--	22.3	51.9	--	--	--	--	--	--	--	109.0	--	252
253	Cottonseed, Sea Island type (<i>G. barbadense</i>), U.S.A.	--	--	--	--	0.3	20.0	2.0	.6	--	--	22.9	--	--	--	35.2	41.7	--	--	--	--	--	--	--	--	--	253
254	Cottonseed, Upland type (<i>G. hirsutum</i>), U.S.A.	--	--	--	--	.5	21.9	1.9	.1	--	--	24.4	--	--	--	30.5	44.8	--	--	--	--	--	--	--	--	.9	254
255	Cottonseed, Hyderabad (<i>G. herbaceum</i>), India. 75/	--	--	--	--	2.3	19.5	.9	--	--	--	22.7	--	--	.8	34.8	41.7	--	--	--	--	--	--	--	103.3	.9	255
256	Cotton thistle (<i>Onopordon acanthium</i>), Holland.	--	--	--	--	--	--	--	--	--	--	6.9	--	--	--	25.5	64.0	3.6	--	--	--	--	--	--	143.3	1.6	256
257	Datura species: Hindu (<i>D. metel</i>), Africa	--	--	--	--	--	13.0	3.0	--	--	--	16.0	--	--	--	31.8	52.2	--	--	--	--	--	--	--	1/ 122.6	3.5	257
258	Jimsonweed (<i>D. stramonium</i>), Africa (2 studies):	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	258
a	Selected value	--	--	--	--	1.3	11.1	2.6	--	--	--	15.0	--	--	--	28.0	57.0	--	--	--	--	--	--	--	1/ 130.5	3.8	a
b	Maximum	--	--	--	--	--	11.4	4.4	--	--	--	--	--	--	--	33.1	60.8	--	--	--	--	--	--	--	--	--	b
c	Minimum	--	--	--	--	--	10.8	1.2	--	--	--	--	--	--	--	23.4	53.6	--	--	--	--	--	--	--	--	--	c
d	Samples .....number...	--	--	--	--	(1)	(2)	(2)	--	--	--	--	--	--	--	(2)	(2)	--	--	--	--	--	--	--	(1)	(1)	d
Dhupa. See <i>Vateria indica</i> .																											
Dog's mercury. See <i>Mercurialis perennis</i>																											
259	Entada, climbing (<i>Entada phaseoloides</i>), Africa.	--	--	--	--	--	20.4		--	8.5		28.9	--	--	--	40.5	30.6	--	--	--	--	--	--	--	87.8	1.3	259
260	Erysimum, hoary (<i>Erysimum canescens</i>), U.S.S.R.	--	--	--	--	--	11.7	--	--	--	--	11.7	--	--	--	48.9	4.5	2.6	--	--	--	20/32.3	--	--	124.5	1.6	260
261	Eveningprimrose, common (<i>Oenothera biennis</i>).	--	--	--	--	--	8.8	1.3	--	1.0		11.1	--	--	--	7.0	71.7	10.2	--	--	--	--	--	--	154.8	3.5	261
262	Fagara coco, Brazil	--	--	--	--	1.6	15.5	2.8	--	--	--	19.9	--	--	--	45.0	23.3	11.8	--	--	--	--	--	--	108.0	.7	262
263	Falseflax, bigseed (<i>Camelina sativa</i>), Sweden. 76/	--	--	--	--	trace	5.2	1.8	1.2	.6	--	8.8	--	--	2.4	23.9	14.5	33.4	77/13.8	--	--	20/ 3.2	--	--	150	.5	263
264	Fishberry (<i>Anamirta cocculus</i>), India.	--	--	--	--	--	6.1	47.5	--	--	--	53.6	--	--	--	43.3	3.1	--	--	--	--	--	--	--	38.0	.7	264
265	Flamboyantree (<i>Delonix regia</i>), India. 78/	--	--	--	--	--	.4	16.7	--	--	--	17.1	--	--	--	31.4	51.5	--	--	--	--	--	--	--	93.6	.5	265
266	Flax: Linseed (<i>Linum</i> species): Linseed oil, Canada (3 varieties):	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	266
a	Buda	--	--	--	--	--	--	--	--	--	--	7.4	--	--	--	18.5	15.5	58.6	--	--	--	--	--	--	196.0	.9	a
b	Crown	--	--	--	--	--	--	--	--	--	--	8.0	--	--	--	16.6	17.5	57.9	--	--	--	--	--	--	196.0	1.1	b
c	Walsh	--	--	--	--	--	--	--	--	--	--	9.3	--	--	--	14.5	24.1	52.1	--	--	--	--	--	--	190.6	.7	c
267	Linseed oil, England:	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	267
a	1947 crop	--	--	--	--	--	8.5	3.9	.4	--	--	12.8	--	--	--	14.9	16.8	55.5	--	--	--	--	--	--	185.2	1.5	a
b	1948 crop	--	--	--	--	--	6.9	6.4	--	--	--	13.3	--	--	--	14.6	15.5	56.6	--	--	--	--	--	--	185.1	1.0	b
268	Linseed oil, India (3 studies):	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	268
a	Selected value	--	--	--	--	--	7.0	7.5	.8	--	--	15.3	--	--	--	19.9	12.9	51.9	--	--	--	--	--	--	177.4	1.2	a
b	Maximum	--	--	--	--	--	9.4	8.2	1.0	--	--	17.6	--	--	--	27.9	16.8	53.8	--	--	--	--	--	--	181.9	1.5	b
c	Minimum	--	--	--	--	--	6.6	7.2	.7	--	--	8.7	--	--	--	13.0	11.7	50.3	--	--	--	--	--	--	170.4	.9	c
d	Samples .....number..	--	--	--	--	--	(2)	(2)	(2)	--	--	(3)	--	--	--	(3)	(3)	(3)	--	--	--	--	--	--	(3)	(2)	d
269	Linseed oil, S. Africa	--	--	--	--	--	--	--	--	--	--	11.8	--	--	--	17.1	13.8	57.3	--	--	--	--	--	--	183.2	--	269
270	Linseed oil, Canada and U.S.A. (4 varieties):	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	270
a	Selected value	--	--	--	--	--	--	--	--	--	--	10.0	--	--	--	22.9	17.5	49.6	--	--	--	--	--	--	179.8	1.0	a
b	Maximum	--	--	--	--	--	--	--	--	--	--	14.6	--	--	--	33.8	26.8	61.8	--	--	--	--	--	--	202.8	1.4	b
c	Minimum	--	--	--	--	--	--	--	--	--	--	7.2	--	--	--	12.1	9.1	34.7	--	--	--	--	--	--	155.4	.7	c
d	Samples .....number..	--	--	--	--	--	--	--	--	--	--	(56)	--	--	--	(56)	(56)	(56)	--	--	--	--	--	--	(56)	(56)	d
271	Linseed oil, variety B. golden, U.S.A.:	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	271
a	Selected value	--	--	--	--	--	--	--	--	--	--	10.6	--	--	--	22.0	12.3	55.1	--	--	--	--	--	--	184.2	.9	a
b	Maximum	--	--	--	--	--	--	--	--	--	--	12.1	--	--	--	26.6	16.1	65.2	--	--	--	--	--	--	198.1	1.0	b
c	Minimum	--	--	--	--	--	--	--	--	--	--	9.3	--	--	--	18.3	6.9	45.2	--	--	--	--	--	--	169.0	.8	c
d	Samples .....number..	--	--	--	--	--	--	--	--	--	--	(5)	--	--	--	(5)	(5)	(5)	--	--	--	--	--	--	(5)	(5)	d

NOTE: Values based on single lots unless otherwise indicated.

1/ Based on total fatty acids instead of total fat.

20/ Erucic acid.

75/ This Hyderabad variety originated from U.S.A. seed.

76/ More commonly known as "dodder oil".

77/ Includes C₂₀(-4H) and C₂₀(-6H) fatty acids.

78/ Popular name in India is "gul mohur".

Item number and description		Saturated fatty acids (weight percentage of total fatty acids)										Unsaturated fatty acids (weight percentage of total fatty acids)												Iodine value	Unsaponifiable	Item number	
		C ₆	C ₈	C ₁₀	C ₁₂	C ₁₄	C ₁₆	C ₁₈	C ₂₀	C ₂₂	C ₂₄	Total	C ₁₂ (-2H)	C ₁₄ (-2H)	C ₁₆ (-2H)	C ₁₈ (-2H)	C ₁₈ (-4H)	C ₁₈ (-6H)	C ₂₀ (-2H)	C ₂₀ (-4H)	C ₂₀ (-8H)	C ₂₂ (-2H)	C ₂₂ (-4H)				C ₂₄
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)				(23)	(24)	(25)
Other seeds -- continued																											
272	Foxglove, common (<i>Digitalis purpurea</i>), Germany.	--	--	--	--	--	--	--	--	--	9.1	--	--	--	44.0	42.9	4.0	--	--	--	--	--	--	--	--	4.9	272
273	<i>Gnetum scandens</i> , India	--	--	--	--	14.0	56.0	--	--	--	70.0	--	--	--	27.0	3.0	--	--	--	--	--	--	--	--	92.9	.8	273
274	<i>Grewia villosa</i> , Africa	--	--	--	--	--	--	--	--	--	15.9	--	--	--	42.3	41.8	--	--	--	--	--	--	--	--	113.4	3.9	274
275	Guiana-orange, Bakuri (<i>Platonia insignis</i>), Brazil (2 studies):	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	275	
a	Kernel proper	--	--	--	--	28.0	28.0	--	--	--	56.0	--	--	--	39.0	4.0	--	--	--	--	--	--	--	--	43.5	.2	a
b	Seed fat	--	--	--	1.0	55.1	6.4	0.3	--	--	62.8	--	--	3.2	31.7	2.3	--	--	--	--	--	--	--	--	40.4	--	b
276	<i>Holoptelea integrifolia</i> , India. 79/	--	--	--	--	37.6	10.0	2.0	--	--	49.6	--	--	--	46.7	3.6	--	--	--	--	--	--	--	--	46.2	2.9	276
277	<i>Hevea brasiliensis</i> :	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	277	
a	Ceylon	--	--	--	--	11	12	1	--	--	24	--	--	--	17	35	24	--	--	--	--	--	--	--	139.8	.5	a
b	Nigeria	--	--	--	--	9	10	1	--	--	20	--	--	--	20	39	21	--	--	--	--	--	--	--	141.0	.9	b
c	Philippines	--	--	--	--	--	--	--	--	--	14.8	--	--	--	29.5	41.2	14.5	--	--	--	--	--	--	--	133.3	1.1	c
278	Ironweed, kinkaoil (<i>Vernonia anthelmintica</i>), India.	--	--	--	.5	3.5	1.5	--	--	--	5.5	--	--	--	80/78.0	16.5	--	--	--	--	--	--	--	--	107.6	7.9	278
279	<i>Jatropha glandulifera</i>	--	--	--	--	14.5	6.0	--	--	--	20.5	--	--	--	34.2	43.0	2.3	--	--	--	--	--	--	--	117.8	1.8	279
Jute (<i>Corchorus</i> species):																											
280	Potherb (<i>C. olitorius</i>), India(2 studies):	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	280	
a	Selected value	--	--	--	--	16.3	3.9	--	1.8	1.1	23.1	--	--	--	11.0	61.5	.9	3.5	--	--	--	--	--	--	111.2	4.0	a
b	Maximum	--	--	--	--	16.9	4.0	--	1.8	1.1	--	--	--	--	12.4	62.5	--	4.0	--	--	--	--	--	--	119.2	5.0	b
c	Minimum	--	--	--	--	15.6	3.7	--	1.7	1.1	--	--	--	--	9.1	59.7	--	2.4	--	--	--	--	--	--	103.3	3.0	c
d	Samples	--	--	--	--	(2)	(2)	--	(2)	(2)	--	--	--	--	(2)	(2)	(1)	(2)	--	--	--	--	--	--	(2)	(2)	d
281	Roundpod (<i>C. capsularis</i>), India	--	--	--	--	12.0	4.6	2.2	--	.9	81/20.9	--	--	--	28.7	41.3	4.7	4.4	--	--	--	--	--	--	104.6	5.4	281
282	Kamatree (<i>Mallotus philippinensis</i>), India	--	--	--	--	18	--	--	--	--	18	--	--	--	28	18	82/36	--	--	--	--	--	--	--	124.1	2.6	282
Kameeldoon. See <i>Acacia</i> , giraffe (<i>Acacia giraffae</i>).																											
283	Kapok (<i>Ceiba pentandra</i>):	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	283	
a	Japan	--	--	--	--	10.6	4.8	--	--	--	15.4	--	--	--	55.3	27.1	--	--	--	--	--	--	--	--	95.4	.9	a
b	Java	--	--	--	--	10.2	8.4	1.2	--	trace	19.8	--	--	--	45.2	32.9	--	--	--	--	--	--	--	--	96.0	.8	b
c	Philippines	--	--	--	.5	15.9	2.3	.8	--	--	19.5	--	--	--	49.8	29.3	--	--	--	--	--	--	--	--	95.6	.8	c
284	Ketiau (<i>Ganua mottleyana</i>), Indonesia.	--	--	--	--	10.2	18.6	--	--	--	28.3	--	--	--	68.8	2.5	--	--	--	--	--	--	--	--	--	--	284
285	<i>Lallemantia</i> species:	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	285	
a	<i>L. iberica</i> , France	--	--	--	--	--	--	--	--	--	5.4	--	--	--	18.1	13.1	63.4	--	--	--	--	--	--	--	199.0	1.3	a
b	<i>L. royleana</i> , India	--	--	--	--	10.1	3.2	--	--	--	13.3	--	--	--	59.4	--	26.1	--	--	--	--	--	--	--	108.5	.3	b
286	Leadtree, whitepopinac (<i>Leucaena glauca</i>), India.	--	--	--	--	12.8	5.0	--	3.6	.7	22.1	--	--	--	23.6	54.3	--	--	--	--	--	--	--	--	111.5	.6	286
287	<i>Lespedeza</i> species, Kentucky, U.S.A.	--	--	--	--	--	--	--	--	--	13.9	--	--	--	27.1	46.5	12.5	--	--	--	--	--	--	--	156.0	--	287
Lupine. See vegetables.																											
Malabar-nut. See <i>Adhatoda vasica</i> .																											
288	Mandara (<i>Jatropha</i>), family Euphorbiaceae, India.	1.5	--	--	8.9	5.2	4.3	1.9	--	--	21.8	--	--	13.7	83/29.6	26.0	8.0	--	--	--	--	--	--	--	106	.8	288
289	Mahogany, Honduras (<i>Swietenia macrophylla</i>), India.	--	--	--	--	12.5	16.4	.6	--	--	29.5	--	--	--	25.3	33.9	11.3	--	--	--	--	--	--	--	109.7	1.1	289
290	Margarines, U.S.A. (4 studies):	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	290	
a	Selected value	--	--	--	.5	22.0	2.8	1.9	--	--	27.2	--	--	2.1	59.8	9.0	trace	1.4	0.4	84/0.1	--	--	--	--	71.5	--	a
b	Maximum	--	--	--	--	--	--	--	--	--	76.4	--	--	--	83.0	24.8	--	--	--	--	--	--	--	--	86.4	--	b
c	Minimum	--	--	--	--	--	--	--	--	--	10.7	--	--	--	16.5	.8	--	--	--	--	--	--	--	--	25.9	--	c
d	Samples	--	--	--	(1)	(1)	(1)	(1)	--	--	(68)	--	--	(1)	(68)	(68)	(1)	(1)	(1)	(1)	--	--	--	--	(67)	--	d
291	Margarines (infra-red analysis) U.S.A. 85/	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	291	
a	Selected value	--	--	--	--	--	--	--	--	--	24.0	--	--	--	85/62.2	13.5	.3	--	--	--	--	--	--	--	78.0	--	a
b	Maximum	--	--	--	--	--	--	--	--	--	25.1	--	--	--	67.1	16.2	.6	--	--	--	--	--	--	--	82.0	--	b
c	Minimum	--	--	--	--	--	--	--	--	--	23.1	--	--	--	59.0	9.1	trace	--	--	--	--	--	--	--	74.0	--	c
d	Samples	--	--	--	--	--	--	--	--	--	(4)	--	--	--	(4)	(4)	(4)	--	--	--	--	--	--	--	(4)	--	d
292	Margosa, neem (<i>Melia azadirachta</i>), India.	--	--	--	.2	16.2	14.6	3.4	--	--	34.4	--	--	--	56.6	9.0	--	--	--	--	--	--	--	--	66.4	.8	292
293	Marvolanut, kafir (<i>Sclerocarya caffra</i>), S. Africa.	--	--	--	--	16.1	5.0	.1	1.0	--	22.2	--	--	1.0	66.7	7.3	trace	2.7	--	--	--	--	--	--	74.4	2.4	293
294	<i>Mercurialis perennis</i> , England.	--	--	--	--	--	--	--	--	--	15.7	--	--	--	--	17.3	67.0	--	--	--	--	--	--	--	203.8	2.0	294
295	Mokka, Japan.	--	--	--	--	19.0	5.0	.5	--	--	24.5	--	--	--	75.5	--	--	--	--	--	--	--	--	--	64.9	1.7	295

NOTE: Values based on single lots unless otherwise indicated.

79/ Known as "Papri" in India.

80/ Includes 72.0 percent epoxystearic acid (C₁₈H₃₂O₃).81/ Includes 1.2 percent cerotic acid (C₂₆).

82/ Kamolenic acid (18-hydroxy-elaeostearic).

83/ Includes 12.9 percent ricinoleic acid (C₁₈H₃₄O₃).84/ C₂₀(-6H).

85/ The trans-isomeric value of the oleic acid is reported with a range of 37.6 - 43.5 percent.

Item number and description		Saturated fatty acids (weight percentage of total fatty acids)											Unsaturated fatty acids (weight percentage of total fatty acids)											Iodine value (24)	Unsaponifiable (25)	Item number	
		C ₆	C ₈	C ₁₀	C ₁₂	C ₁₄	C ₁₆	C ₁₈	C ₂₀	C ₂₂	C ₂₄	Total	C ₁₂ (-2H)	C ₁₄ (-2H)	C ₁₆ (-2H)	C ₁₈ (-2H)	C ₁₈ (-4H)	C ₁₈ (-6H)	C ₂₀ (-2H)	C ₂₀ (-4H)	C ₂₀ (-8H)	C ₂₂ (-2H)	C ₂₂ (-4H)				C ₂₄
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)				(23)
Other seeds.-- continued																										Percent	
296	Momordica species:																									296	
a	Balsampear (<i>M. charantia</i>)	--	--	--	--	--	--	16.0	--	--	16.0	--	--	--	82.2	--	--	--	--	--	--	--	--	--	73.3	0.6	a
b	<i>M. dioica</i> 24/	--	--	--	--	--	--	16.1	--	--	16.1	--	--	--	73.8	--	--	--	--	--	--	--	--	--	72.7	.7	b
297	Nahor (<i>Mesua ferrea</i>), India	--	--	--	--	0.2	12.5	13.5	--	--	26.2	--	--	--	59.8	14.0	--	--	--	--	--	--	--	--	88.4	2.9	297
298	Nightshade, black (<i>Solanum nigrum</i>), India.	--	--	--	--	--	1.8	1.9	--	--	3.7	--	--	--	49.7	46.6	--	--	--	--	--	--	--	--	123.2	1.4	298
Nigerseed (<i>Guizotia abyssinica</i>):																											
Africa (2 studies):																											
a	Selected value	--	--	--	--	--	7.9	10.6	1.0	--	19.5	--	--	--	7.1	72.5	0.9	--	--	--	--	--	--	--	138.4	.9	a
b	Maximum	--	--	--	--	--	--	--	--	--	19.5	--	--	--	14.6	75.3	--	--	--	--	--	--	--	--	140.3	1.2	b
c	Minimum	--	--	--	--	--	--	--	--	--	11.3	--	--	--	7.0	72.2	--	--	--	--	--	--	--	--	134.9	.5	c
d	Samples .....number..	--	--	--	--	--	(1)	(1)	(1)	--	(4)	--	--	--	(4)	(4)	(1)	--	--	--	--	--	--	--	(4)	(4)	d
300	India	--	--	--	--	--	--	--	--	--	9.5	--	--	--	37.0	53.5	--	--	--	--	--	--	--	--	120.5	.6	300
301	<i>Omphalea queenslandiae</i> , Australia	--	--	--	--	--	12.7	8.1	--	--	20.8	--	--	--	47.0	31.7	.5	--	--	--	--	--	--	--	97.1	--	301
Palm genera. See Fruits including seeds and other parts.																											
Para rubber tree. See <i>Hevea brasiliensis</i> .																											
302	Peashrub, Siberian (<i>Caragana arborescens</i>), Canada.	--	--	--	--	--	3.1	6.2	1.0	3.0	--	13.3	--	--	0.2	17.0	67.1	2.2	0.2	--	--	--	--	--	141.7	2.9	302
303	Pennycress, field (<i>Thlaspi arvense</i>), U.S.A.	--	--	--	--	trace	1.5	--	--	--	5.0	--	--	--	12.5	33.0	.5	--	--	--	--	20/49.0	--	--	117.3	1.3	303
304	Pigeonwings (<i>Clitoria ternatea</i>), Africa. 86/	--	--	--	--	--	25.8		5.2		31.0	--	--	--	52.3	16.7	--	--	--	--	--	--	--	--	72.9	3.0	304
305	Pongamia, Pongaoil (<i>Pongamia pinnata</i>), India. 87/	--	--	--	--	1.6	7.9	3.7	2.5	4.2	1.1	21.0	--	--	--	62.1	11.9	5.0	--	--	--	--	--	--	87.9	1.1	305
Poppy (<i>Papaver</i> species):																											
Opium, black (<i>P. somniferum nigrum</i>), Argentina:																											
a	Selected value	--	--	--	--	.2	9.0	1.3	.1	--	10.6	--	--	1.2	18.2	70.0	--	--	--	--	--	--	--	--	137.5	.5	a
b	Maximum	--	--	--	--	.3	10.6	1.3	.1	--	--	--	--	1.6	20.5	70.3	--	--	--	--	--	--	--	--	138.4	.6	b
c	Minimum	--	--	--	--	.1	7.4	1.2	.1	--	--	--	--	.8	16.0	69.7	--	--	--	--	--	--	--	--	136.6	.4	c
d	Samples .....number..	--	--	--	--	(2)	(2)	(2)	(2)	--	--	--	--	(2)	(2)	(2)	--	--	--	--	--	--	--	--	(2)	(2)	d
307	Opium (<i>P. somniferum</i>), England:																										
a	Selected value	--	--	--	--	.7	8.8	1.3	.3	--	11.6	--	--	--	16.4	72.0	--	--	--	--	--	--	--	--	145.6	1.5	a
b	Maximum	--	--	--	--	--	9.5	2.7	--	--	--	--	--	--	16.5	72.6	--	--	--	--	--	--	--	--	145.9	1.7	b
c	Minimum	--	--	--	--	--	8.3	1.4	--	--	--	--	--	--	16.4	71.6	--	--	--	--	--	--	--	--	145.4	1.3	c
d	Samples .....number..	--	--	--	--	(1)	(2)	(2)	(1)	--	--	--	--	--	(2)	(2)	--	--	--	--	--	--	--	--	(2)	(2)	d
308	Opium (<i>P. somniferum</i>), Germany	--	--	--	--	--	--	--	--	--	10.0	--	--	--	25.0	65.0	--	--	--	--	--	--	--	--	--	.3	308
309	Opium (<i>P. somniferum</i>), India	--	--	--	--	--	11.0	4.2	.4	--	15.6	--	--	--	11.4	73.0	--	--	--	--	--	--	--	--	143.1	1.1	309
310	Unknown <i>P.</i> species, U.S.A.	--	--	--	--	--	--	--	--	--	9.0	--	--	--	22.7	68.3	--	--	--	--	--	--	--	--	144.2	--	310
Portia-tree. See <i>Thespesia populnea</i> .																											
311	<i>Prinsepia utilis</i> Royle, air-dried kernels, India.	--	--	--	--	1.8	15.2	4.5	--	--	22.4	--	--	--	32.6	43.6	--	--	--	--	--	--	--	--	109.8	.5	311
Quandong. See <i>Santalum acuminatum</i> .																											
312	Ragweed, common (<i>Ambrosia artemisiifolia</i>), U.S.A.	--	--	--	--	--	5.5	4.8	--	--	10.3	--	--	--	19.9	69.8	trace	--	--	--	--	--	--	--	--	--	312
313	<i>Rosa eglanteria</i> , Brazil	--	--	--	--	.4	1.6	1.5	--	--	3.5	--	--	--	6.6	73.6	16.3	--	--	--	--	--	--	--	173.4	1.5	313
Safflower. See <i>Carthamus</i> species.																											
314	<i>Santalum acuminatum</i> , Canada.....	--	--	--	--	--	3	1	--	--	4	--	--	--	50	--	88/46	--	--	--	--	--	--	--	--	1.0	314
Sapium species:																											
<i>S. discolor</i> , China:																											
a	Selected value	--	--	--	--	--	7	4	2	--	13	89/ 4	--	--	7	38	38	--	--	--	--	--	--	--	179.2	.6	a
b	Maximum	--	--	--	--	--	8	5	1	--	--	89/ 5	--	--	8	42	91/42	--	--	--	--	--	--	--	181.5	.9	b
c	Minimum	--	--	--	--	--	6	4	trace	--	--	89/ 4	--	--	6	35	90/35	--	--	--	--	--	--	--	177.0	.4	c
d	Samples .....number..	--	--	--	--	--	(2)	(2)	(2)	--	--	(2)	--	--	(2)	(2)	(2)	--	--	--	--	--	--	--	(2)	(2)	d
316	<i>S. sebiferum</i> , China:																										
a	Selected value	--	--	--	--	--	8	4	--	--	12	89/ 5	--	--	9	27	47	--	--	--	--	--	--	--	181.6	.9	a
b	Maximum	--	--	--	--	--	9	5	--	--	--	89/ 5	--	--	10	30	54	--	--	--	--	--	--	--	190.4	1.0	b
c	Minimum	--	--	--	--	--	7	3	--	--	--	89/ 5	--	--	7	24	41	--	--	--	--	--	--	--	172.7	.8	c
d	Samples .....number..	--	--	--	--	--	(2)	(2)	--	--	--	(2)	--	--	(2)	(2)	(2)	--	--	--	--	--	--	--	(2)	(2)	d
317	<i>S. sebiferum</i> , U.S.A.	--	--	--	--	--	9	3	trace	--	12	89/ 4	--	--	8	25	51	--	--	--	--	--	--	--	189.0	1.0	317
318	<i>Schizandra chinensis</i> , U.S.S.R.	--	--	--	--	--	--	--	--	--	4.0	--	--	--	31.2	64.8	--	--	--	--	--	--	--	--	140.7	5.5	318

NOTE: Values based on single lots unless otherwise indicated.

20/ Erucic acid.

34/ Fatty acids reported add to less than 96 percent.

86/ Also known as the "butterfly bean" or "Kordofan pea".

87/ Also known as "karanja oil".

88/ Includes 44 percent ximenynic acid (C₁₈H₃₀O₂).89/ Decadienoic acid C₁₀(-4H).

90/ Includes 1 percent elaeostearic acid, an isomer of linolenic acid.

91/ Includes 2 percent elaeostearic acid, an isomer of linolenic acid.

Item number and description		Saturated fatty acids (weight percentage of total fatty acids)										Unsaturated fatty acids (weight percentage of total fatty acids)												Iodine value	Unsaponifiable	Item number	
		C ₆	C ₈	C ₁₀	C ₁₂	C ₁₄	C ₁₆	C ₁₈	C ₂₀	C ₂₂	C ₂₄	Total	C ₁₂ (-2H)	C ₁₄ (-2H)	C ₁₆ (-2H)	C ₁₈ (-2H)	C ₁₈ (-4H)	C ₁₈ (-6H)	C ₂₀ (-2H)	C ₂₀ (4H)	C ₂₀ (-8H)	C ₂₂ (-2H)	C ₂₂ (-4H)				C ₂₄
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	
Other seeds -- continued																										Percent	
319	<i>Sesbania aegyptiaca</i> :						9.0	17.5			1.9	28.4				24.4	36.3	10.9							112.4	3.3	319
a	India	--	--	--	--	--	11.2	10.5	--	--	--	21.7	--	--	--	42.6	31.8	3.9	--	--	--	--	--	--	108.0	1.8	a
b	Pakistan	--	--	--	--	--			--	--			--	--	--				--	--	--	--	--	--			b
320	<i>Seseli indicum</i> , India	--	--	--	--	--	6.4	--	--	--	--	6.4	--	--	--	91a/ 79.4	14.2	--	--	--	--	--	--	--	--	--	320
Shea buttertree. See <i>Butyrospermum parkii</i> .																											
321	Shortening (meat and vegetable fat), U.S.A.	--	--	--	--	--	--	--	--	--	--	44.9	--	--	--	42.5	11.5	.6	--	--	0.5	--	--	--	59.4	--	321
322	Shortenings (vegetable fat), U.S.A. (2 studies):																									322	
a	Selected value	--	--	--	--	0.6	14.7	6.6	1.7	--	--	23.6	--	--	0.3	68.4	7.5	.2	--	--	--	--	--	--	74.6	--	a
b	Maximum	--	--	--	--	--	--	--	--	--	--	23.7	--	--	--	79.3	12.2	.4	--	--	--	--	--	--	76.8	--	b
c	Minimum	--	--	--	--	--	--	--	--	--	--	16.6	--	--	--	63.7	4.1	.2	--	--	--	--	--	--	72.6	--	c
d	Samples	--	--	--	--	(1)	(1)	(1)	(1)	--	--	(5)	--	--	(1)	(5)	(5)	(4)	--	--	--	--	--	--	(4)	--	d
323	Shortenings (vegetable fat) (infra-red analysis), U.S.A.: 92/																									323	
a	Selected value	--	--	--	--	--	--	--	--	--	--	25.5	--	--	--	62.1	12.0	.4	--	--	--	--	--	--	76.1	--	a
b	Maximum	--	--	--	--	--	--	--	--	--	--	25.9	--	--	--	92/64.0	12.5	.6	--	--	--	--	--	--	76.7	--	b
c	Minimum	--	--	--	--	--	--	--	--	--	--	24.5	--	--	--	92/60.7	11.6	.1	--	--	--	--	--	--	75.5	--	c
d	Samples	--	--	--	--	--	--	--	--	--	--	(2)	--	--	--	(2)	(2)	(2)	--	--	--	--	--	--	(2)	--	d
324	<i>Solanum indicum</i> , India.....	--	--	--	0.6	--	7.2	6.6	1.1	--	--	15.5	--	--	--	35.0	49.5	--	--	--	--	--	--	--	121.5	2.0	324
325	<i>Sterculia</i> species:																									325	
a	Hazel (<i>S. foetida</i>), East Indies	--	--	--	--	5.6	8.8	--	--	--	--	14.4	--	--	--	93/13.2		--	--	--	--	--	--	--	70.0	1.0	a
b	Kutira-gond (<i>S. urens</i>), India	--	--	--	--	4.9	18.6	2.1	--	--	1.7	27.3	--	--	--	69.7	2.5	--	--	--	--	--	--	--	74.2	.6	b
c	<i>S. tomentosa</i> , Africa	--	--	--	--	--	--	--	--	--	--	24.0	--	--	--	53.0	23.0	--	--	--	--	--	--	--	84.8	--	c
d	Unknown <i>S.</i> species, Japan	--	--	--	--	--	--	--	--	--	--	25.0	--	--	--	45.0	30.0	--	--	--	--	--	--	--	--	--	d
326	<i>Stillingia</i> , Queensdelight (<i>Stillingia sylvatica</i>), U.S.A.	--	--	--	--	--	3.4	1.8	--	--	--	5.2	--	--	--	18.5	25.0	48.6	--	--	--	--	--	--	189.9	.8	326
<i>Strophanthus</i> species:																											
a	Arrowpoison (<i>S. sarmentosus</i>), Nigeria:																									327	
b	Forest form	--	--	--	--	.2	12.2	8.1	3.1	--	--	23.6	--	--	--	94/49.9	26.4	--	--	--	--	--	--	--	87.0	.9	a
	Savannah form	--	--	--	--	.2	11.9	9.2	4.0	--	--	25.3	--	--	--	95/45.0	29.7	--	--	--	--	--	--	--	93.0	1.7	b
328	<i>S. courmontii</i> , Nigeria	--	--	--	--	.1	13.4	4.5	2.8	--	--	20.8	--	--	--	96/48.8	30.4	--	--	--	--	--	--	--	95.4	1.2	328
329	<i>S. hispidus</i> , Nigeria	--	--	--	--	.1	11.9	7.0	2.0	--	--	21.0	--	--	--	97/49.0	30.0	--	--	--	--	--	--	--	98.3	1.3	329
Sunflower, common (<i>Helianthus annuus</i>) seed:																											
330	Africa (2 studies):																									330	
a	Selected value	--	--	--	--	--	--	--	--	--	--	13.5	--	--	--	23.0	63.5	--	--	--	--	--	--	--	132.5	1.1	a
b	Maximum	--	--	--	--	--	--	--	--	--	--	16.1	--	--	--	43.4	72.7	--	--	--	--	--	--	--	142.1	1.6	b
c	Minimum	--	--	--	--	--	--	--	--	--	--	11.0	--	--	--	13.1	43.6	--	--	--	--	--	--	--	113.4	.3	c
d	Samples	--	--	--	--	--	--	--	--	--	--	(20)	--	--	--	(20)	(20)	--	--	--	--	--	--	--	(20)	(20)	d
331	Africa (comparative analysis):																									331	
a	Winter crop	--	--	--	--	--	--	--	--	--	--	10.9	--	--	--	34.5	54.6	--	--	--	--	--	--	--	124.4	.8	a
b	Summer crop	--	--	--	--	--	--	--	--	--	--	10.4	--	--	--	56.3	33.3	--	--	--	--	--	--	--	106.4	.8	b
332	Africa (effect of period of growth):																									332	
Sowing to harvest:																											
a	3-5 months, black-seeded	--	--	--	--	--	--	--	--	--	--	12.5	--	--	--	23.3	63.7	--	--	--	--	--	--	--	134.9	1.5	a
b	3-5 months, cream-seeded	--	--	--	--	--	--	--	--	--	--	10.9	--	--	--	37.3	51.8	--	--	--	--	--	--	--	126.1	1.1	b
c	3-3 months, black-seeded	--	--	--	--	--	--	--	--	--	--	10.7	--	--	--	44.2	45.1	--	--	--	--	--	--	--	120.3	1.1	c
d	3-3 months, cream-seeded	--	--	--	--	--	--	--	--	--	--	8.2	--	--	--	58.2	33.6	--	--	--	--	--	--	--	112.4	1.0	d
e	2-3 months, black-seeded	--	--	--	--	--	--	--	--	--	--	8.0	--	--	--	64.8	27.2	--	--	--	--	--	--	--	106.6	1.2	e
f	2-1 months, cream-seeded	--	--	--	--	--	--	--	--	--	--	9.1	--	--	--	71.8	19.1	--	--	--	--	--	--	--	98.3	1.1	f
333	Argentina (commercial oil)	--	--	--	--	--	--	--	--	--	--	12.5	--	--	--	21.3	66.2	--	--	--	--	--	--	--	133.7	.5	333
334	Australia:																									334	
a	Selected value	--	--	--	--	--	--	--	--	--	--	15.1	--	--	--	30.7	54.2	--	--	--	--	--	--	--	126.0	1.3	a
b	Maximum	--	--	--	--	--	--	--	--	--	--	17.1	--	--	--	53.9	67.8	--	--	--	--	--	--	--	137.8	1.8	b
c	Minimum	--	--	--	--	--	--	--	--	--	--	13.4	--	--	--	16.4	31.0	--	--	--	--	--	--	--	104.9	.9	c
d	Samples	--	--	--	--	--	--	--	--	--	--	(11)	--	--	--	(11)	(11)	--	--	--	--	--	--	--	(11)	(11)	d
335	China	--	--	--	--	.4	4.1	4.2	.4	--	--	9.1	--	--	--	37.4	53.6	--	--	--	--	--	--	--	--	--	335
336	England	--	--	--	--	--	6.4	3.2	.9	--	--	10.5	--	--	.4	21.6	67.5	--									

NOTE: Values based on single lots unless otherwise indicated.

91a/Includes 47.4 percent petroselinic acid, an isomer of oleic acid.

92/ The trans-isomeric value of the oleic acid is 28.8 and 24.6 percent respectively.

93/ Also 72.4 percent of the cyclopropenyl acid (sterculic, C₁₉H₃₄O₂).94/ Includes 6.4 percent hydroxyoctadecenoic acid (ricinoleic, C₁₈H₃₄O₃).95/ Includes 7.3 percent hydroxyoctadecenoic acid (ricinoleic, C₁₈H₃₄O₃).96/ Includes 10.2 percent hydroxyoctadecenoic acid (ricinoleic, C₁₈H₃₄O₃).97/ Includes 13.5 percent hydroxyoctadecenoic acid (ricinoleic, C₁₈H₃₄O₃).

Item number and description		Saturated fatty acids (weight percentage of total fatty acids)											Unsaturated fatty acids (weight percentage of total fatty acids)											Iodine value	Unsaponifiable	Item number		
		C ₆	C ₈	C ₁₀	C ₁₂	C ₁₄	C ₁₆	C ₁₈	C ₂₀	C ₂₂	C ₂₄	Total	C ₁₂ (-2H)	C ₁₄ (-2H)	C ₁₆ (-2H)	C ₁₈ (-2H)	C ₁₈ (-4H)	C ₁₈ (-6H)	C ₂₀ (-2H)	C ₂₀ (-4H)	C ₂₀ (-6H)	C ₂₂ (-2H)	C ₂₂ (-4H)				C ₂₄	
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)				(23)	(24)	(25)
Other seeds -- continued																										Percent		
340	<u>Thespesia populnea</u> , India.....	—	—	—	—	1.0	21.4	1.9	—	—	—	24.3	—	—	—	32.5	43.2	—	—	—	—	—	—	—	71.5	0.7	340	
341	Tobacco, common (<u>Nicotiana tabacum</u>) seeds: Bulgaria	—	—	—	—	—	—	—	—	—	—	9.7	—	—	—	24.6	65.6	—	—	—	—	—	—	—	135.6	3.0	341	
342	England (Virginian type)	—	—	—	—	—	—	—	—	—	—	11.2	—	—	—	7.8	77.6	1.5	—	—	—	—	—	—	154.9	1.9	342	
343	India (commercial oil)	—	—	—	—	—	—	—	—	—	—	9.8	—	—	—	20.1	68.2	1.9	—	—	—	—	—	—	147.1	1.9	343	
344	Rhodesia:																									344		
a	Turkish type	—	—	—	—	—	—	—	—	—	—	12.4	—	—	—	13.7	73.0	.9	—	—	—	—	—	—	147.2	1.7	a	
b	Virginian type	—	—	—	—	—	—	—	—	—	—	13.5	—	—	—	11.9	73.0	1.6	—	—	—	—	—	—	147.5	2.5	b	
345	Turkey	—	—	—	—	—	—	—	—	—	—	13.1	—	—	—	12.3	73.8	.8	—	—	—	—	—	—	147.2	2.0	345	
346	United States of America (2 studies):																									346		
a	Selected value	—	—	—	—	—	3.1	4.9	—	—	—	8.0	—	—	—	17.0	75.0	—	—	—	—	—	—	—	142.6	1.3	a	
b	Maximum	—	—	—	—	—	—	—	—	—	—	12.2	—	—	—	19.2	77.3	—	—	—	—	—	—	—	145.9	—	b	
c	Minimum	—	—	—	—	—	—	—	—	—	—	8.0	—	—	—	12.0	71.7	—	—	—	—	—	—	—	139.5	—	c	
d	Samples	—	—	—	—	—	(1)	(1)	—	—	—	(13)	—	—	—	(13)	(13)	—	—	—	—	—	—	—	(13)	(1)	d	
347	<u>Tumblemustard (Sisymbrium altissimum)</u> , U.S.A.	—	—	—	—	—	14.1	—	—	—	—	14.1	—	—	1.0	5.2	19.0	34.0	—	—	—	20/25.3	—	—	151.0	.5	347	
348	<u>Vateria indica</u> , India (3 studies):																									348		
a	Selected value	—	—	—	—	1.1	10.0	40.0	3.3	—	0.6	55.0	—	—	.7	42.5	1.4	.4	—	—	—	—	—	—	39.8	1.0	a	
b	Maximum	—	—	—	—	1.2	12.0	58.8	4.6	—	—	—	—	—	1.5	48.0	2.3	.5	—	—	—	—	—	—	42.8	1.1	b	
c	Minimum	—	—	—	—	1.1	9.7	39.0	3.0	—	—	—	—	—	trace	25.5	.5	.2	—	—	—	—	—	—	35.0	.8	c	
d	Samples	—	—	—	—	(2)	(3)	(4)	(3)	—	(1)	—	—	—	(2)	(4)	(2)	(2)	—	—	—	—	—	—	(4)	(2)	d	
349	<u>Xanthium</u> species:																									349		
a	<u>X. riparium</u> , Germany	—	—	—	—	—	—	—	—	—	—	7.2	—	—	—	25.8	67.0	—	—	—	—	—	—	—	143.0	.6	a	
b	<u>X. strumarium</u> , U.S.S.R.	—	—	—	—	—	—	—	—	—	—	8.2	—	—	—	27.1	63.4	—	—	—	—	—	—	—	136.2	.9	b	
350	<u>Ximenia</u> species, South Africa:																									350		
a	<u>X. americana</u> , var. <u>microphylla</u>	—	—	—	—	—	.3	1.4	.4	trace	1.3	99/ 7.5	—	—	.5	35.8	—	100/22.1	1.8	—	—	20/ .2	—	—	101/3.0	77.4	1.4	a
b	<u>X. caffra</u>	—	—	—	—	—	.4	2.6	.6	0.6	2.2	102/ 11.2	—	—	1.5	32.5	—	103/24.7	2.5	—	—	20/ 2.3	—	—	104/5.7	83.0	1.4	b
c	<u>X. caffra</u> , var. <u>natalensis</u>	—	—	—	—	—	.3	2.4	1.0	.9	2.6	105/ 10.6	—	—	1.0	40.5	—	106/22.2	2.3	—	—	20/ 1.3	—	—	107/7.3	79.7	1.3	c

NOTE: Values based on single lots unless otherwise indicated.

- 20/ Erucic acid.
28/ Also 13.5 percent Isopoleic acid, an isomer of oleic acid.
29/ Includes 3.0 percent C₂₆ and 1.1 percent C₂₈.
100/ Includes 21.9 percent ximenynic acid (C₁₈H₃₀O₂) and 0.2 percent as β -elaeostearic acid (C₁₈H₃₀O₂).
101/ Also 8.7 percent hexacosenoic acid (ximenic, C₂₆H₅₀O₂), 12.2 percent octacosenoic acid (C₂₈H₅₄O₂), 7.0 percent triacontenoic acid (lumequeic, C₃₀H₅₈O₂), and 0.9 percent as dotriacontenoic acid (C₃₂H₆₂O₂).
102/ Includes 3.8 percent C₂₆ and 1.0 percent C₂₈.
103/ Includes 24.3 percent ximenynic acid (C₁₈H₃₀O₂) and 0.4 percent as β -elaeostearic acid (C₁₈H₃₀O₂).
104/ Also 3.5 percent hexacosenoic acid (ximenic C₂₆H₅₀O₂), 9.6 percent octacosenoic acid (C₂₈H₅₄O₂), 5.4 percent triacontenoic acid (lumequeic C₃₀H₅₈O₂), and 1.0 percent dotriacontenoic acid (C₃₂H₆₂O₂).
105/ Includes 2.6 percent C₂₆ and 0.8 percent C₂₈.
106/ Includes 22.0 percent ximenynic acid (C₁₈H₃₀O₂) and 0.2 percent as β -elaeostearic acid (C₁₈H₃₀O₂).
107/ Also 7.0 percent hexacosenoic acid (ximenic, C₂₆H₅₀O₂), 4.7 percent octacosenoic acid (C₂₈H₅₄O₂), and 3.0 percent triacontenoic acid (lumequeic, C₃₀H₅₈O₂).

